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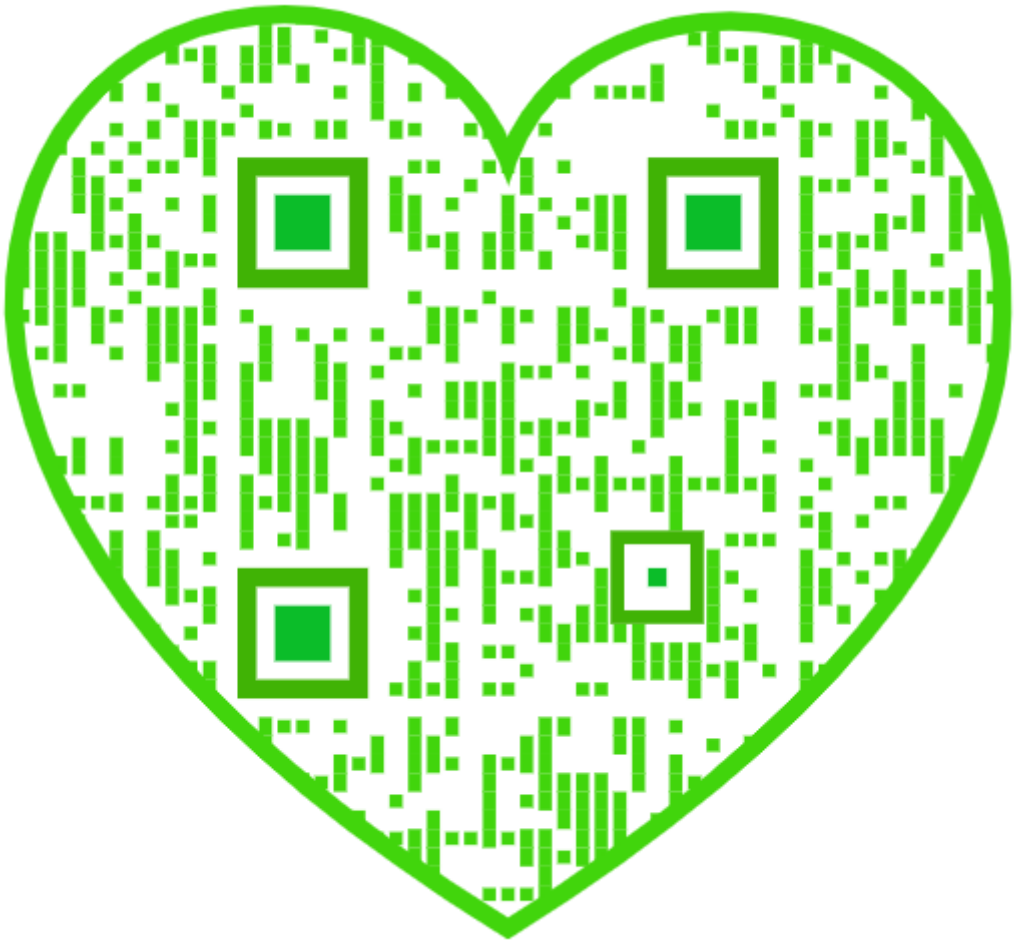

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THOS. WM. COWAN, F.G.S., F.L.S., F.R.M.S., &c., AND W. BROUGHTON CARR.

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The

British Bee Journal

AND BEE-KEEPERS' ADVISER.

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A Weekly Journal Devoted to the Interests of Bee-keepers.

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THE

British Bee Journal

No. 1332. Vol. XXXVI. N.S. 940.] JANUARY 2, 1908. [*Published Weekly.*

TO OUR READERS.

The first Editor of the BRITISH BEE JOURNAL, when penning its opening page, wrote as follows:—"Our mission is to aid those enlightened members of the community who *cultivate* bees, and to induce others to engage in the charming pursuit, feeling assured that there is no other source of profit or amusement which affords such pleasant occupation or yields so large a return for the capital invested when rightly understood and practised."

These words, written thirty-five years ago, still hold good, and it is not without a feeling of pride that the present Editors are able to state that in their endeavour to carry out the intentions then formed they have been supported by the ablest and best men in the craft. In saying this we gratefully acknowledge the valuable help given by our voluntary contributors and the support afforded by our numerous readers; and in thanking the latter for the many seasonable expressions of goodwill and encouragement received from all parts of the country, it may not be out of place to quote from a letter sent by an experienced bee-keeper, as showing that we have attained some measure of success in our congenial task of furthering the interests of the industry. He writes:—"May I be permitted to express the wish that you may jointly preside over the B.B.J. for many bright New Years? The wish is perhaps not without a tinge of selfishness, as I fully realise the advantage we gain from information and reviews that are the result of both learning *and* experience. With bee-keepers who are not scientists and scientists who are not bee-keepers we should otherwise be in a parlous state."

To those who have expressed their fraternal goodwill by forwarding Christmas cards we tender our hearty thanks, and also extend our best wishes to the whole fraternity of bee-keepers for a happy and prosperous New Year.

THE EDITORS.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held at 105, Jermyn Street, S.W., on Thursday, December 19, Mr. W. F. Reid (vice-chairman) presiding. There were also present Miss Hall, Messrs. R. T. Andrews, T. Bevan, W. Broughton Carr, E. Garcke, J. B. Lamb, E. D. Till, E. Walker, and the secretary. Letters expressing regret at enforced absence were received from Mr. T. W. Cowan, Miss Gayton, Messrs. R. Godson, W. H. Harris, and A. G. Pugh.

The minutes of the previous meeting were read and confirmed.

Mr. K. S. C. Carruthers, Manor Farm, Frant, Sussex, was duly elected a member of the Association.

The Finance Committee's report was presented by Mr. Bevan, and gave details of receipts and expenditure to date, together with a list of cheques to be drawn. The report was approved.

A sub-committee, consisting of the Chairman, Vice-Chairman, Miss Hall, Mr. Carr, and Mr. Garcke, was appointed to take into consideration some methods of increasing the income of the Association, and will meet early in the New Year.

A number of presentation drawings illustrating the engravings upon an ancient cup owned by the Wax-Chandlers' Company were distributed amongst those present, and aroused much interest. The secretary was authorised to convey the thanks of the Council for the gift of the drawings, which it is hoped will be reproduced in the BRITISH BEE JOURNAL.

A very full and explicit report upon the examination for second-class expert certificates was presented, and as a result it was decided to grant diplomas to Messrs. G. W. Bullamore, W. E. Charter, Wm. Copsey, Wm. Darrington, O. R. Frankenstein, Jas. Hadfield, Clarence Harris, F. E. May, T. A. Roberts, A. W. Salmon, W. H. Sims, and D. Vallance.

A committee was appointed to revise the regulations for examinations in 1908, and will meet on January 16, after the meeting of Council fixed for the same day.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

A CONTEMPLATED BIBLIOGRAPHY.

APPEAL TO READERS OF THE B.B.J.

[6950.] I wish to inform the readers of the B.B.J. that for several years past I have devoted much of my spare time to compiling a Bibliography of British Bee-literature, now nearly completed, and I beg their help in making good a few deficiencies. It is my intention, if life and health be granted, to include the chief American and a selection of the best Continental works, with explanatory details, and to publish the bibliography with other matter chiefly relating to the history of British bee-keeping. I am at present at work on the Continental section. To complete the English portion I shall be grateful if those who know where copies of any of the books now mentioned are to be found will communicate with me. Postcards will do, and I shall be glad to pay all further expenses:—

Author's Name.	Work.	Place.
Dyer, W.	"The Apiary Laid Open."	Tewkesbury, 1781.
Gurnay, H.	"A Treatise on Bees."	About 1650.
Pettigrew, A.	"The Handy Book of Bees."	3rd Ed.
Raynor, Rev. George.	"Queen Introduction."	1st Ed., ? 1882.
S. S. S.	"The Hive and its Commonwealth."	1856, London.
Wallace, John.	"The Bee Garden."	Perth, 1831.
B.B.K.A.	"Modern Bee-keeping."	2nd Ed., ? 1881.
Wildman, Daniel.	"A Complete Guide, &c."	London; any Edition before 1775.
,, ,,	The Dates of 8th, 9th, 10th and 13th Eds.	
Anonymous.	"Comfort to Aristæus."	London, ? 1801.
,,	"The Virtues of Honey" (by Dr. Hill).	2nd Ed., London.
,,	"A Sure Way to Order Bees: or, A Compleat Bee-Master."	12mo, London, N.D.

I have been privately invited by our friend "D. M. M., Banff," to give my opinion on his suggestion in B.B.J. of December 26 (6947, page 512) that some publisher should be persuaded to issue cheap reprints of the scarcest works of our old bee-masters. While appreciating his motive, I should not be sanguine of success, for there are but few persons who take a practical and abiding interest in ancient bee-literature, and I fancy that most of these would rather patiently endure gaps on their bookshelves than fill them with cheap modern reproductions. There is something very attractive in a genuine old bee-book, treasured as it may have been through generations of good bee-keepers, lying for years in the oblivion of an attic, then running the weather chances of an open bookstall, till on a happy day it fell into your friendly hands, to be polished up and join a goodly fellowship. Bee-books have always been scarce, though with due patience a nice little hoard may still be collected, and not necessarily at the ruinous prices quoted by "D. M. M." Appealing to a small circle of readers, they have made their appearance in small editions. Some have been honourably thumbed out of existence; more have succumbed to base usage or perished in mere neglect. Had it not been that up to the middle of the eighteenth century even an eighteenpenny book was printed on tough fibrous paper instead of the shoddy fabric used now, even for fairly expensive works, our bee-libraries would be very scanty. Good and cheap reprints can be produced when the circulation warrants it, but not, as I believe, in the case in question. I would gladly see some of our classics brought out in fitting style; unfortunately, my own fancy would be exacting. Sound paper, handsome type, and generous margins—how could I, who love our old masters, offer less to Edmund Southerne, who "brake the ice"; Charles Butler, sometime Student at Magdalen and father of our craft; and to the learned Purchas? Such is my own feeling; but I would not discourage cheap reprints for those who can profit by them. The better their contents become known the more will the originals become desirable.

With Christmas greetings.—H. J. O. Walker (Lieut.-Colonel), Leeford, Budleigh Salterton, Devon, December, 1907.

NOTES BY THE WAY.

[6951.] The first number of a new volume awakens thoughts among old contributors like myself to years that are past, when our best wishes were sent to a generation now passed away of bee-keepers whose hearty grasp of the hand proved the sincerity of their friendship, whenever occasion called us together in friendly rivalry. Old friends are sadly missed as time passes, but new ones are ever filling their places, full of health and youth to carry on modern methods and achieve success with their bees. To all these may the coming year prove a good one, tending to restore confidence in the profitable side of our craft, the past season having proved a blank so far as profits go in many cases. But bee-keeping is not alone in its bad season: other and larger industries have been equally unfortunate in 1907, so we must not complain, but rather look forward determined to reap our share of the harvest when it comes.

To enable us to do so we must have the ingatherers; therefore don't let your bees starve for want of food. Our Editors are ever ready to give personal advice when in difficulties, while in every copy of the B.B.J. will be found queries and replies printed; and these are a great help to beginners.

Thick versus Thin Combs.—I do not pretend to answer the question, "Why should honey be better ripened in boxes holding ten ordinary shallow-frames than in the same boxes with a smaller number of thick combs?" I have, however, for many years noticed how much easier honey extracts from thick combs than thin ones; the same kind of honey in thin combs would not, in my case, extract clean with twice the number of turns of the extractor. In fact, I have repeatedly had to return thin combs to the extractor a second time, and still found them not cleared of contents so well as thicker combs on which less labour had been expended. This practical experience is the ground on which I build my contention that thinner combs would contain the best ripened honey; but as regards the profitable side of bee-keeping, I should use the thicker combs if my efforts were devoted to obtaining large quantities of extracted honey. I have tried the plan of using eight instead of ten frames in shallow-frame supers for the past two or three years. These are not abnormally wide from centre to centre, and do not induce the bees to build brace-combs, as they did when I first used "wide" ends.

Thin sections are not in the same category as thin shallow-combs, because the intention of the section-honey producer is to secure rich thick honey of good quality in comb containing the smallest amount of wax possible. In fact, he tries to get the advantage of full sheets of foundation in his sections, with as near an approach as possible to the delicate thinness of natural comb, which latter contains so little wax as to leave almost nothing in the mouth of those partaking of the honey as a table-delicacy.—W. Woodley. Beedon, Newbury.

NOTES ON THE NEW YEAR.

A FEW HINTS FOR BEE-KEEPERS.

[6952.] We are entering on another year, and while on the threshold, as it were, I would like to wish every reader of the B.B.J. happiness and prosperity, and all bee-keepers a good season and success in matters apicultural. To the Editors and the journal itself may 1908 be happy and prosperous.

The birth of a new year is generally a time of strong aspirations and of good resolves for the time to come. This "turning over a new leaf" may indeed be for many the opening out of another and brighter epoch, and good resolutions and new plans made may lead to developments hitherto unattained. As Shakespeare says, "There is a tide in the affairs of men, which, taken at the flood, leads on to fortune." In other words, those who are observant and ready to grasp opportunities when they occur will command success. To the ordinary bee-keeper success may not mean a golden fortune, and yet there is enough in bee-craft to make success well worth striving for, and with good luck a fascinating hobby may be made to yield a rich reward. The bee-keeper's motto should be, "Be ready," and bearing this in mind he must make his plans early for the coming season. Some may consider this advice premature, and declare it too early yet to begin preparations for next season's work. Plenty of time, say the laggards, to begin after our bees show signs of returning activity. To those of our friends who reason thus I would point to the bees themselves, and remind them that, although now hidden snugly away in their hives, they "never put off till to-morrow what they can do to-day," and even now, all unseen, some of them may have begun raising a new generation, and slowly but surely increasing their numbers, thus to be prepared to "improve the shining hours" when summer with its flowers and floods of nectar comes. To the bee-man who makes a close study of his bees, simply for the love which he has for all things in Nature, this state of constant preparedness comes easy. Even though his bees are safely and warmly "wrapped up" while all around

the earth is in the grip of winter, the magnetism of love and hope will often draw his footsteps apiary-wards, where the silent hives stand like tombstones in the grey, short, lingering light of a winter day. The sight of them carries him away from the idle present into the happy future, and in his mind's eye he sees the gradual swelling of the cluster, the increasing activity of the queen-mother, as day by day the sun climbs higher in the heavens and woos first the crocus, then the palms and dandelions, into bloom. From the outward signs he daily reads, as from a book, what is taking place within, and increasing activity tells him that his bees are doing their part in being ready for the earliest flowers. Thus he is impelled by an irresistible fellow-feeling to make ready too.

But what of the "keeper of bees" who runs his apiary simply with the idea of gain in money from the efforts of his industrious little labourers? On such a man of all others it is incumbent to be ready; but is he? I fear, often not; for, as a rule, he is a man of many schemes and plans, too busy to mess with bees except when absolute necessity compels him. If his bees gather any surplus, it is taken from them with no thought for their needs or their comfort during winter. They are often hastily covered up on removal of the racks; no extra wraps given, and, roofs carelessly thrown on, the unfortunate bees are left to take their chance until, again all too late, the following season. Appliances from which the propolis and dirt have never been scraped are brought into use for another season's crop. In the quiet months the sordid bee-keeper I have in mind never sees his bees or their hives. The fate of the perhaps starving little creatures does not trouble his mind. He is perhaps too much occupied with more lucrative matters. No loving feelings for the bees take him among the hives to listen to what I consider the sweetest music in the insect world, when on some balmy spring or late winter day the bees take a joyous flight in the warm sun. He does not notice their eager visits to the early flowers. Perhaps even the advent of the flowers themselves means nothing, and

> A primrose by a river's brim
> A yellow primrose is to him,
> And it is nothing more.

I have met this stamp of bee-keeper many times, and although he is difficult to convert, it has been my privilege on more than one occasion to awaken an interest in the minds of such careless ones that has led them to study the requirements of our fascinating hobby, and become a credit to the craft.

Should these rambling lines meet the eyes of any who feel they have neglected their bees in the past, and have in consequence been unsuccessful in bee-keeping, I appeal to them to "turn over a new leaf" in the coming season. Begin now, my friends; there is much to be done before activity in the hives tells us spring is here. Read the guide books, and get all the appliances ready. Learn to anticipate all the wants of the bees, and be prepared to supply them in time. Above all, study their habits whenever you have the opportunity, and find out the motives which are the mainspring of their strenuous little lives. You will reap your reward, and you will learn the importance of "being ready."—G. W. Avery, Armathwaite, S.O., December 30.

(Correspondence continued on page 6.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

Mr. Bakewell, a portion of whose apiary is seen on opposite page, may be congratulated on steering clear of the foul-brood pest during his six years' experience among the bees; and this, too, by using only the most simple and orthodox remedies. It is, however, certain that the knowledge which secured him the expert's certificate has served him in good stead when carrying out these remedial measures. With the disease prevalent within easy bee-flight of his own location his success in keeping it out of his own hives should be helpful to others obviously less thorough in their methods of working. He says:—

"With regard to my bee-experiences, they have been rather commonplace, extending over a period of six years. I also adopted the advice you always give beginners, viz., to 'make haste slowly' in the matter of the number of stocks they should keep. I have only eight stocks at the present time, three of which appear in photo, and there are five on another part of the farm. I cannot boast of the large 'takes' secured by some of your readers, as ours is not a rich honey-district, but the quality is good, the flavour and consistency being excellent. I manage to secure an average of 25 lb. to 30 lb. per hive, taking the seasons all round.

"I have been fairly successful at our local show, generally taking first prize for bees in observatory-hive, besides various other prizes for honey and wax. I was one of the candidates who entered for examination for the third-class B.B.K.A. expert's certificate at the 'Royal' Show held at Derby in 1906, and was successful in getting my 'pass.' Unlike

many brother bee-keepers, I have been fortunate in keeping my little apiary free from the diseases so many bee-keepers are troubled with, although foul brood is known to exist within a mile and a half from my place. In keeping foul brood at bay I simply use naphthol beta solution in syrup when feeding up, and place naphthaline in hives and among the quilts, believing as I do that prevention is better than cure, and in my case it has been effective so far. The past year has been a very poor one for bees here through the clover harvest being so extremely short in duration. Only two of my stocks managed to store any surplus for extracting. The bees, however, gathered a fair amount from the common bramble or blackberry and ivy, which is abundant about here.

MR. GEO. L. BAKEWELL'S APIARY, EGGINGTON, DERBYSHIRE.

There are a lot of willows and osiers, from the blossoms of which our bees gather a lot of pollen in early spring, so that we never need to give them artificial pollen. I am a constant reader of your valuable B.B.J., and look eagerly for it every week—indeed, from it and the 'Guide Book' I have acquired most of my knowledge of bee-craft.

"With regard to my bee-experiences, I think the most exciting and afterwards amusing one was in transhipping my first stock. During a conversation with a bee-keeping cousin at Burton on the subject of bees, he offered to let me have a couple of stocks of bees to practise with. With this in view, and being in town for a load of grain, we thought it would be a good idea to fix up the hives on top and convey them home in that way. The hives were duly prepared and loaded up, with entrances towards the rear of the cart, and we started homewards. I had not gone very far before a bee or two made their appearance to see what was causing their 'shake-up,' and by the time I was outside the town quite a little mob of angry bees were flying round about the hives and cart. They became so threatening towards myself that I had to get down and keep at a respectful distance. Fortunately there was almost no traffic, so there was little or no trouble beyond the alarm I felt as to what I should do if anybody got stung! About a mile out of the town I met a tramp who, becoming interested, stopped to look at the buzzing bees; but he didn't stop long, for the bees made for him, and I fancy he did more work in skipping and jumping away from the bees than he had done for many a day. The way he used his bundle of belongings as a weapon of defence was most comical to see. How he fared I don't know, but he was still battling with the bees as I turned a corner a quarter of a mile away. After this experience I felt really afraid, as others might not be worthless tramps, so I had to walk in front of the cart like the flagman of a traction-engine, warning people of the approaching danger, and it was highly amusing to see the people slip into the hedges and crouch until the enemy was past. However, the hives were landed home at last, and the horse taken out (which happily suffered no injury), but the bees

had possession of the cart and its contents until dusk, when they were unloaded and taken to their stands; and I had learned a lesson in bee-'driving.' I close by wishing to all brother bee-keepers a prosperous season in 1908."

(*Correspondence continued from page* 4.)

THE QUESTION OF POLLEN.

[6953.] I have closely followed all that has been said and written about pollen in recent numbers of the B.B.J., and, being a keenly interested reader, several points have occurred to me which I think may be worthy of mention to your readers. In the first place, then, it will be remembered that at the Conversazione of the B.B.K.A. which followed the quarterly meeting in October, Mr. Geo. Hayes opened a discussion on the subject of "Pollen—Its Advantages." His remarks regarding the fact of each plant possessing pollen of a colour and shape peculiar to itself are easy to understand by anyone possessing even a slight knowledge of botany, seeing that anyone who studied the various pollen-grains of honey-plants would soon be enabled to recognise them and name the plant from which they came, even when found in a sample of honey. But when Mr. Hayes suggests a standardisation of the purity of honey by the number of pollen-grains it contains, I quite fail to agree with his line of reasoning. If such a method of estimating the purity of honey were to be adopted, the wily adulterator would, in my opinion, not be slow in rivalling the honey-bee as a pollen-collector; and it would be reasonable to argue that a sample of honey containing an abnormal amount of pollen must be adulterated, while in all probability the "manufacturer" had done no more than let his pollen-bottle slip, and so had dropped more pollen into the sample than he had intended!

Pollen as Winter Food for Bees.—Pollen is essentially a nitrogenous substance; but anyone who has studied physiology must know that a highly nitrogenous diet is unnecessary, and even harmful, for animals (including man) when not at work. At the same time, he is aware that a nitrogenous diet is essential to the development of a growing animal. Again, all readers who have the feeding of domestic animals to attend to will, either knowingly or unknowingly, make practical use of the above statements every day of their lives. Now bees may certainly be considered as adult animals. They have finished their growth, and only consume nitrogenous food for the purpose of renewing tissues wasted by the work they perform. In winter they are at rest, and obviously do not require nitrogenous food (*i.e.*, pollen) at such a time. Mr. J. Gray, by experiments published in the B.B.J., has shown that bees are better without pollen during the winter-time. Then I ask—Why do bees require food at all when in a dormant state? The Polar bear goes entirely without food during a great part of the year; and in our own country the hedgehog sleeps for many weeks together; while to my mind the honey-bee does not appear to have room in her little body to store up sufficient heat-forming nutriment to last her through the winter, and so she stores it in the cells. The Polar bear and the hedgehog retire to their long rest loaded with heat-forming food in the shape of fat, which gradually disappears, being given off from the body as heat and moisture and carbon dioxide, without any apparent effort on the part of the animal itself. In like manner, then, the digestion and assimilation of honey by the bee call for no more effort than the sipping of it from the cell. The saccharine portion of honey (as distinct from the pollen) is the heat-producing portion. Its composition is similar to that of fat, and it is reasonable to assume that it is entirely transformed into water and heat and carbon dioxide in the same way. Thus we are led to the conclusion that the saccharine portion of honey does not form solid fæces in the intestines of the bee. But who can say the same with regard to pollen? To sum the matter up, I consider that, from the evidence with regard to the uses of pollen, the following facts may be deduced:—1. Pollen is necessary as a food during growth of larvæ. 2. It is necessary to repair waste tissues in bees that are working. 3. It is not a necessary or essential food for bees when hibernating.—S. R. P. Fisher, pharmaceutical chemist, Seaforth, Liverpool.

NOTES FROM NORTH HERTS.

[6954.] Referring to the criticism of Mr. Owen Browning's views on foul brood by Mr. Crawshaw (page 509), I ask if it would not be safe to affirm that only mild cases of any brood disease are likely to disappear without treatment? To lump all such cases together as a new disease would cause confusion rather than remove it. The foul brood that disappears of itself if introduced to a new district or to stocks of greater susceptibility in the neighbourhood might have a very different history. Although the percentage of formic acid in clover-honey was not sufficient to arrest the growth of *Bacillus alvei*, the experiments of Professor Harrison show that some honey does contain enough formic acid to do so, and this seems a reasonable explanation of the self-cures. The advantage of "Guide

Book" treatment is that we are sure of the proportion of naphthol beta or soluble phenyle present in the food. If we leave it to Nature we cannot be sure of a honey-flow from a curative source.

Bokhara Clover.—This term is sometimes used as a synonym for melilot, but is usually restricted to *Melilotus alba*. In Root's "A B C" Bokhara clover is not mentioned, but the value of melilot is fully discussed under the name of "sweet clover." Professor Cook speaks of Bokhara clover as a variety of melilot.

With regard to the Editorial mention of cross-breeds of bees on page 511, I think cross-breeds in horses become sterile after three or four generations, but the rule does not apply to fowls and many other animals, and its reliability with regard to bees is decidedly doubtful. Breeders of fancy animals resort to crossing in order to break down the stability of the race, and with the instability of type thus produced is noticed a tendency to "throw back" to more or less remote ancestors. This atavism would account for the disappearance, in the case of horses, of the improvements brought about by careful selection for many generations. Bees have not been carefully selected, and though the vicious stocks may have been steadily weeded out by the use of the sulphur-pit, the best honey-gatherers have been removed at the same time. A throw-back would not be an unmixed evil to those who put honey-gathering qualities first in importance, but the variability is a drawback that could only be overcome by rigid selection for many generations.

Plurality of Queens.—It has been suggested, in the B.B.J. and elsewhere, that it would be an advantage to have more than one queen in a hive in spring, but I think that a good queen can lay all the eggs a stock is capable of hatching. If food is plentiful her fecundity is only limited by the size of the cluster. If the cluster is small owing to fewness of bees, the help of a frame of hatching brood would, in my opinion, be of more value than half a dozen extra queens. At the end of the season it would, no doubt, be very nice to put the nuclei together, and separate them again in the spring, but that plan does not seem to answer, according to my experience.

"*The Old and the New*" (page 491).—I am in perfect accord with "D. M. M." as to the advantages we derive from guide books and bee-journals, but I think he is "a bit down" on the old order in his choice of their representative. I am inclined to think that if the two bee-keepers he selects for comparison were to change hives we should shortly notice an air of neglect about the modern frame-hive apiary, while the skep-garden would take on a trim and orderly appearance. So much depends on the bee-keeper that the system which eliminates him as a factor has yet to be invented. I have little doubt that the best of the old skeppists were neat and methodical, and would have hailed with delight the advent of the modern system. Over a hundred years ago John Keys, of Cheshunt, Herts, was using bee-boxes with loose floor-boards, and with the combs attached to loose bars. They were worked on the storifying system, and he doubtless turned out good "virgin honey."—G. W. BULLAMORE, Albury, Herts.

PHOTOS OF B.B.J. CONTRIBUTORS.

[6955.] I note with pleasure that "Mel Rosæ" (6949, page 514) has been bold enough to throw out a suggestion *re* the above. Strange, but true, I have had the very same idea, but have deferred the request, thinking I should be asking too much of our worthy Editors. However, I am pleased to see a promise from them in that direction likely to be carried out. —H. T. MARCH, Norwich, December 30.

AMONG THE BEE-HIVES.

SECURING STRAIGHT COMBS.

[6956.] I often wonder that more is not said and written about the value of straight combs and how to secure them. The only reference to this I can remember having been made was by Mr. Crawshaw in "Cappings of Comb." We hear a great deal about the importance of having interchangeable frames, but little or nothing about interchangeable combs, ignoring the fact that the frames may be right while the combs built in them may not be interchangeable. I think some discussion on this subject would be useful, and with this end in view I beg to make a few comments.

First let me say I do not know of anything nicer to look at than a straight, evenly-built comb. It is simply a feast for the eyes to a bee-keeper, whereas a crooked and shapeless one is undesirable in every way; and in giving my experience as to what causes unshapely combs I have found the worst results produced when full sheets of foundation were inserted between built-out combs, and when the latter contained honey not sealed over. The reason for this is obvious, seeing that while foundation was being drawn out, the cells of the adjoining combs were being lengthened also, with the ultimate result that three combs were rendered useless. I have occasionally had unshapely combs built by giving full sheets of foundation between sealed brood-combs. In these cases no eggs were laid in the cells built out from foundation, consequently the

bees lengthened out the newly-built cells to the dimensions of the larger space between the brood-cells, thereby making the lower part of the new combs too thick. Another way in which I find that unshapely combs are formed is by giving more room than can be filled with bees while drawing out combs from foundation.

The worst results, however, are undoubtedly got when carrying out the instructions usually given for enlarging the brood-nest or filling up blanks caused when combs have for various reasons to be taken out of a hive—that is to say, when frames with or without foundation are placed between unsealed combs. This brings me to the second point—*i.e.*, what I have found secures me straight combs.

It is now several years since I commenced experimenting in this way. My first attempt to get straight combs built when inserting foundation between sealed combs was to use sheets of queen-excluder on both sides of the inserted frames, leaving space above and below for the queen to pass. This arrangement was successful so far, but I sometimes found that the queen did not find her way into the centre. On one occasion I put four frames with foundation in the centre of the brood-nest, but the queen failing to occupy them, they were completely filled with honey.

To overcome this fault I got Mr. Steele, of Wormit, to supply me with perforated zinc cut to the size I wanted, and having round holes of sufficient size cut in the zinc to allow the queen to pass freely through. He also made me grooved cleats the same as those at the ends of "fence separators," and into the grooves the ends of the zinc sheets are fixed, thereby giving the necessary rigidity along with the bee-passage. I have had only one season's trial of these, and they have given excellent results, the queen having always taken possession when the foundation was sufficiently drawn out, and the combs between the separators were perfect. I should here state that I use only close-ended frames, so it is easy for me to carry out this arrangement, as the separators are firmly held in position by the ends of the frames. In fact, it is almost the same idea as that found in a section-rack, the separators in both cases securing straight combs. Mr. Crawshaw's suggestion is the only one I have seen on this subject, and that after I had tested practically the same idea. He recommends hanging a slotted dummy on each side of the inserted frames, and rightly claims that besides securing straight combs the bees hanging on these dummies lessen the weight on the foundation and the risks of its breaking down. He refers, of course, to the ordinary hanging frame, but I have my doubts about the application of the hanging dummy. I do not see how they could be held in the right position. It cannot be done by the adjoining frames because they are not rigid and are easily put off the plumb. Perhaps Mr. Crawshaw will explain more fully the application of his suggestion.

Talking of the ordinary hanging open-ended frames leads me to mention another cause of unshapely combs. When we look along the top of a bar-frame hive we see the tops of the frames properly placed and distanced by metal ends or broad shoulders, but take a look through a window placed at the ends of those frames, and ten to one you find some of them touching, or nearly so, at the bottom, causing corresponding openings between other frames. Combs formed under such conditions cannot, strictly speaking, be called interchangeable. This difficulty will exist as long as people use frames which possess little or no means whereby they can be made to hang true and also plumb.—ALEX. REID, Balloan, Muir-of-Ord, N.B., December 14.

[Every bee-keeper worth the name will agree with our esteemed correspondent in saying that straight combs are of the greatest value in good bee-keeping. In fact, interchangeability of combs may be regarded as of equal importance with that of the various movable parts of hives; but we cannot see "eye to eye" with our friend on the supposed difficulty of securing straight combs if intelligent care is taken in the work. In other words, we should have thought the directions given in the "Guide Book" would enable the merest tyro possessed of intelligence to avoid the troubles detailed by Mr. Reid if comb-foundation is used with judgment and forethought.

The advantages of this most useful item in the bee-keeper's outfit are so clearly shown in the book named above—particularly in the new edition—as to render crooked or unshapely combs a thing of the past. In proof of this we may refer to the photos (from Nature) on pages 25, 67, 75, and 153, and numerous others. The trouble which follows the misuse of foundation alongside built-out combs is specially referred to on page 151, and the same principle applies in spreading and contracting brood-nests; indeed, the matter is so clearly stated that no one need go astray. The illustrations on pages 16 and 65 (from Nature) show what good combs are like, and we venture to say that anyone who takes trouble, and is possessed of intelligence, can secure such combs in his own hives. At the same time, we are glad to have Mr. Reid's experience in his endeavour to secure good combs, but he has certainly not gone about his work in the easiest way.—EDS.]

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. Macdonald, Banff.

Philosophy in Business.—Commenting on the past bad bee-season and the depressing influence it has had on some mercurial bee-keepers, Miss Emma Wilson has some pertinent remarks in the *American Bee Journal* worth studying:—"Anyone who embarks in bee-keeping should go into it with his eyes open, expecting bad years as well as good. I know at least one bee-keeper who, when a year of failure comes, takes the matter philosophically, appearing just as cheerful as if he had a crop, saying that a succession of successes and failures is the regular programme to be expected, and why not accept one as well as the other?" It requires no stretch of imagination on my part to set down that "Grand Old Man" of bee-keeping, the veteran Dr. C. C. Miller, as the sage philosopher whose wise words should be taken to heart by the despondent ones on this side who are inclined to wail because of one season of semi-failure. I think, indeed, that it is good for us that we should be "afflicted" at times, because, if every season were good, with an abundant surplus crop, we should gradually get into the habit of leaving the bees to manage themselves, and from being bee-keepers degenerate into being keepers of bees. Beginning a new year as we now are, let us determine to work more strenuously for the good seasons yet to come. Repeatedly in the past we have it on record that a bad year is generally followed by a good. Herein is balm for the troubled spirit! Excelsior!!

A Tip.—Mr. A. C. Miller in the *Bee-keeper* gives us the following:—"Instead of trying to cut out the old combs from frames, just try plunging them in boiling water. It takes the comb out like magic and leaves the wires intact. A subsequent plunge in boiling lye and a rinse in clear or acidulated water will remove all propolis, and leave the frame as good as new." Here is another hint, old as the early dawn of apiculture, but no less worthy of repeating on that account:—"Bees can endure much cold if they are dry, but dampness is fatal; so see to it at once that covers are tight. The veterans do not have to be told; this is for the other fellows."

Poor Comfort.—Mr. Townsend in *The Review* has this to say of inequality of colonies:—"It seems to have become an accepted fact that all one has to do to ensure a populous colony for the next season's harvest is to put a young queen into each, and the harvest is secured. Now is it not a fact that a certain percentage of these young queens prove worthless? Then there are other troubles, so one must expect to have some colonies each season that are not in good honey-gathering condition, with any system we may adopt. Therefore if a man starts out with the expectation of having all his colonies strong and in good condition for the honey-flow every year he is destined to disappointment, for with the best care and pains some colonies will lag and be of no account as far as surplus is concerned." Here is food for thought! Let not age be the criterion for testing queens, but let their failing powers, or defective ovipositing from the start, be the index to point out those deserving to be doomed.

Wherein Doctors Differ.—In a recent issue of *Gleanings* Mr. Alexander advised extracting from the brood-chamber in spring and feeding back to the bees with the idea that stimulating would produce accelerated ovipositing, an enlarged brood-nest, and a resultant large army of bees. He goes so far as to say that a solid comb of sealed honey is about an equivalent of a wooden dummy. Then came Dr. Miller giving an example of a heavily-stored hive left undisturbed turning out the best in his apiary, having at the end of the season stored "more surplus than any other" in the collection. This last is exactly along the line of my own experience. Nothing else stimulates a stock in spring better than a fine fat comb of sealed honey, and it is my regular practice to equalise in this way, giving to the poor from the over-rich in stores. Mr. Doolittle also preaches and practises this doctrine. In this country, as a rule, where this comb is inserted in the new hive, the surface next the bees is scratched to give the bees the smell of running honey, and to convey the idea that a new source of nectar has been tapped, thus generating the breeding instinct actively.

Queries and Replies.

[3645.] *Bees Carrying Pollen in December.*—Having only kept bees for ten months, my experience is very limited, but I have managed to increase my stocks from three to five. I have also fed up with medicated syrup in the autumn, and given to each stock a cake of candy, as per instructions in "Guide Book." I now observe that the bees in three of the hives are practically dormant, while a few fly from the fourth on mild days; but from the fifth hive they nearly always appear to be busy. Friday, December 20, being an exceptionally mild and sunny day, the bees of the fifth hive came out in thousands, as

though it were summer, and I noticed a lot of them carrying in pollen, which seemed very white in colour. I therefore ask—Is not this unusual at this time of the year? What plants yield pollen at end of December? Ivy has been a great attraction of late, but now that is over. I also notice that about a score or so of dead workers are cast out every week from this hive; but from the others scarcely a dead bee is seen. Why is this so? I may add all my hive-entrances are shielded from sunlight during winter months. No. 5 hive was crammed with bees on all ten frames in September, and well supplied with stores—in fact, the bees have not yet finished a 1-lb. cake of candy which I put on some weeks ago, so it is not starvation which brings them out. Name sent for reference.—Apis, Harbledown, December 21.

Reply.—It is unusual for bees to carry pollen into hives in December, unless there is ivy growing plentifully in the district. In this case both pollen and honey are gathered very late in the year. On the other hand, in so abnormal a season as we have just gone through, flowers of various kinds have sent up second crops of blooms or yielded nectar out of season in many places. With regard to dead bees being cast out of the hive in question, and very busy when others were quiet, it would appear to indicate that it is very strong in bees, and unusually active in consequence.

[3646.] *Suspected Dysentery.*—On looking over my five hives the other day I observed around the entrance and on the alighting-board of one hive what appeared to be bee-droppings of coffee-coloured matter, of a creamy consistency, which I cleaned away, and, being a mild day, I opened the hive and found the bees quite lively, and the 3-lb. cake of candy given them at end of September last about finished. Before this, however, and during that same month, I gave all my other hives 8 lb. to 10 lb. each of sugar-syrup in rapid feeders, and then closed them down for the winter with two balls each of naphthaline. The opening of the hive in question caused a few bees to come out, and before leaving I found a few renewed traces of the droppings referred to. As a regular subscriber to the B.B.J., I shall be glad if you will kindly advise me if anything can be done in the matter. Name sent for reference.—B. F., Dundee, December 23.

Reply.—Unless the "droppings" referred to were observable on the combs and inside of the hive examined, there is no cause for alarm in what was seen. They are merely the usual signs of bees having had a cleansing-flight.

[3647.] *Utilising Partly Filled Combs.*—Having a good many bits of uneven brood-comb containing some honey, we are led to ask:—Can the honey be extracted and comb melted down during the same process, or would it be better to let the bees clean it up by using it for later winter feeding? Please reply in B.B.J. to—Chub and Jim, Harleston, December 26.

Reply.—If combs are clean but unfit for use in brood-nest, the best course is to cut them up into an earthenware vessel that can be immersed in a pan of hot water and kept hot till both honey and wax are thoroughly melted. The water must not be allowed to reach boiling-point, but kept hot, and when removed from the fire and allowed to cool, the wax can be lifted off in a solid cake, the honey being used for the table if good in quality; otherwise it is given to the bees as food.

[3648.] *Queen-mating.*—I had the good fortune, one day last summer, to see the mating of a queen humble-bee, from the time when she was overtaken by the drone until the separation. Is such a chance unusual; and, if so, would an account be of interest to your readers?—W. B. Bennitt, Devon, December 27.

Reply.—In so far as your observations would tend to throw any light on the mating of queen-bees the particulars would be of both use and interest to bee-keepers, and we should be very pleased to have them for insertion in our pages.

Notices to Correspondents.

Red Cross (Osmotherley).—*Insect Nomenclature.*—The insect sent is commonly known as the drone-fly (*Eristalis tenax*), from its resemblance to a drone-bee. It is not in any way allied to *Apis mellifica*, but it hovers over flowers much the same as the humming-bird does.

R. Bickersteth (Yorks.).—*B.B.K.A. Experts' Certificates.*—Particulars regarding these can be had from secretaries of county associations, or by writing to Mr. Edwin H. Young, Sec. B.B.K.A., 12, Hanover Square, London, W.

Honey Sample.

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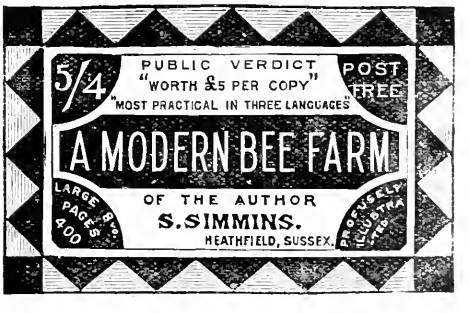

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The

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &C., AND W. BROUGHTON CARR.

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

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Editorial, Notices, &c.

REVIEWS.

The A B C and X Y Z of Bee-culture. By A. I. Root and E. R. Root (Medina, Ohio, U.S.A.: The A. I. Root Co. Price $1.50, or at B.B.J. Office, price 7s.).—This work of 536 pages is, as its name implies, a complete cyclopædia of everything pertaining to bees and bee-keeping. It was originally compiled by A. I. Root, who in the 1877 preface, after stating his indebtedness to Langstroth, Quinby, and others, says that "a great part of this A B C book is really the work of the people, and the task that devolves on me is to collect, condense, verify, and utilise what has been scattered through thousands of letters for years past." Since the first copy of this work appeared, now thirty-one years ago, it has undergone many revisions, and has had many additions both of letterpress and illustrations, while the rapid advancement in bee-culture has made it necessary in many cases to remove whole articles and re-write them entirely. The revision has been ably carried out by E. R. Root, the present editor of *Gleanings*, who has had the assistance of a number of well-known and able men. In the preface the names of the writers of the different articles are given. For instance, we find Dr. C. C. Miller writes on honey-comb and out-apiaries, Dr. E. F. Phillips on the eye, parthenogenesis, and scent of bees, E. R. and H. H. Root on wax and wintering, both of these having carried out a number of experiments on these subjects. There are also articles by W. K. Morrison and Mrs. Comstock. It seems almost superfluous to say anything about a book of which already 100,000 copies have been sold; the simple fact speaks for itself that it fills a want, and is an attestation of its worth. Among the articles that have been revised we find the new methods of queen-rearing described, so that the practical bee-keeper will have the latest and best ideas on the subject before him for reference. The new methods of wax-production are treated in an exhaustive manner, and as this subject is of more importance than formerly, greater space has been devoted to it. We have nothing but good words for this work, and recommend our readers to get a copy of the 1908 edition. The work is profusely illustrated and beautifully printed, and is a credit to the publishers.

Les Douze Mois de l'Apiculture. By Ph. J. Baldensperger (Nice: Imprimerie de l'Eclaireur. Price 1 franc.).—The author of this little book of forty pages is a well-known and experienced bee-keeper, who has frequently contributed to our pages when carrying on bee-keeping both in Palestine and in the South of France. As the title implies, it is a guide as to what should be done during the whole twelve months of the year, and as the activity of the bees begins in the spring, the author commences his instructions with the month of March. There is a chapter for every month, and at the end of each are given the names of bee-flowers blossoming during that month. There is a great deal of information compressed in this small space, and although the instructions apply to the South of France, where M. Baldensperger is now carrying on bee-keeping, every bee-keeper will find something of interest in these pages, as they are the outcome of the practical experience of a successful bee-keeper.

Notes sur le Commerce International, la Navigation, et les Finances du Brésil. By Dr. Vieira Souto (Rio de Janeiro: M. Orosco and Co.).—This is an extract from the introduction of the work, "O Brazil, suas riquezas naturaes, suas industrias," and gives notes on the international commerce, navigation, and finances of Brazil. The first chapter is historical, and shows the gradual development of Brazil from the time it was a colony of Portugal. The exports in the earlier years of the colony's history were principally to the mother country, whence also came those articles of merchandise required in the country. Later on, when Brazilian ports were opened to the commerce of the world, we find England displacing Portugal and doing by far the largest business with that country. It is most interesting to read about the gradual development of this rich country and its commanding position among the nations of the world in the present day. Not only is it the largest self-governed State in the world, but the country is beautiful and the climate salubrious. White men can live there and thrive. It possesses nearly everything that the world requires, yet it has hardly been explored. In this book will be found interesting statistics of imports and exports, also of income and expenditure and navigation. As regards imports into Brazil, we are told that for "1905 England occupies, as she has always done, the first rank with a total of $120,899,158," Germany coming next; then follows the Argentine Republic, the United States ranking fourth, while France is fifth, and Portugal, which formerly stood first, almost alone, only takes sixth rank. Brazil produces a large quantity of Carnauba wax, the largest part of which comes to England and Germany. We were much pleased to read the report of the rapid progress made by this country, as yet so sparsely populated, and there is no reason why its develop-

ment should not be as rapid in this century as was that of the United States in the last. The population is but 25½ millions, and as the country is as large as the United States, there will be ample room for any number of people for many years to come.

"BEE-KEEPERS' PRACTICAL NOTE-BOOK."

The above useful little note-book and diary continues to increase in popularity, and in consequence the second edition has been sold out more rapidly than was anticipated.

A new edition is therefore being prepared with all possible speed, and will be ready in about a fortnight, when all orders now on hand will be duly attended to.

CROSSING RACES AND VARIETIES OF BEES.

By F. W. L. Sladen, F.E.S.

In the article headed "Reviews of Foreign Bee-Journals," by "Nemo," in the B.B.J. of December 26 (page 511), some details are given of a "discussion which took place at a congress of German naturalists with respect to the transmission of various qualities in breeding horses and other animals." It is stated that "the conclusion arrived at with regard to these* was that it had been conclusively proved by experience that the crossing of two different races produced not only breeds of extreme variability, but the defects in each race were more pronounced in the offspring than in the parents, while the good qualities of these were considerably diminished. After continuing such breeding to the third and fourth generations it had been found that Nature stepped in to eliminate the worthless by making them sterile." The article continues:—"M. Wathelet, editor of *Le Rucher Belge*, says it must be admitted that what is true with respect to horses and other animals is equally true with bees." The above conclusion of the German naturalists is then applied by M. Wathelet to the case of the cross between the Italian bee and the (Belgian?) black bee, and to that of the cross between the Italian bee and the Swiss black bee.

Allow me to point out that the "races" of animals referred to by the German naturalists are clearly of a different nature from the races of bees mentioned by M. Wathelet. The "races" of animals showed sterility after crossing; such sterility is associated with deep-rooted differences between the two "races" of the same nature as exist between two distinct species which will breed together, like the horse and the ass. The races of bees mentioned by M. Wathelet are, on the contrary, perfectly fertile after crossing; the differences between them are small, merely varietal. It would be more correct to class these races of bees with the numerous races or varieties of animals which, like the bees, are perfectly fertile after crossing; for instance, with the varieties of cattle, sheep, poultry, &c., with which we are all familiar. People who keep these animals for profit practise largely the crossing of suitable races or varieties with the most satisfactory results. Crossing has also played an important part in the development of new breeds of poultry, &c. Indeed, it is universally acknowledged that judicious crossing is very important, all careful observers having noticed that it imparts increased vigour, size, and fertility in innumerable instances.†

Crossing is useful in two ways. First, it is of value to stock-*keepers*, those who keep and breed the live-stock for the products that it yields—meat, wool, eggs, &c.; in this case it is the first or second generation of the cross-breds that is usually of chief value, the increased profitableness of many kinds of half-breds being noted. Secondly, crossing is of value to stock-*breeders*, this word being here used to mean those who breed the stock with the object of producing improved varieties; here it is the later generations of the cross-breds, after much careful selection has been practised, that are the objects of value.

Both as a bee-keeper and as a bee-breeder I regard the crossing of suitable races and varieties of bees as particularly advantageous from the view-point of honey-production.

As a bee-keeper I affirm that the yield of honey from the English bee is much increased by judiciously crossing it with other European races or their American varieties, and that some of the largest takes from single colonies have been from such cross-breds. This I proved when, in the nineties, I kept two large apiaries for honey-production alone. That others hold the same view the pages of the B.B.J. constantly show. For instance, in the B.B.J. of April 5, 1906, page 133, it is reported that at the B.B.K.A. Conversazione, held in March, Mr. Salmon, a well-known expert, stated that "he noticed that when Ligurian blood predominated he had more honey than when the gathering was the work of pure English bees," and at the same meeting Mr. Dunn-Gardner, a prominent Cam-

* I learn that the word "bees," obviously a printer's error, should have read "these."

† See "Farm Live Stock of Great Britain," by Wallace (1893), also Prof. Wrightson's standard work on the same subject (1892), and others.

bridgeshire bee-keeper; gave the figures of some large yields, which were entirely from colonies of hybrid bees.* It is to be noted that the ordinary bee-keeper, unless he constantly goes to great expense, cannot keep any pure variety except the native one, and as this cannot be bred by selection, his only hope of improvement lies in crossing.

As a bee-breeder I consider that for the climate of Britain a cross between our good English black bee and the Italian bee (the race that American bee-keepers, with few exceptions, prefer to all others for honey-production) is excellent. With such a cross one can breed by selection by means of bright colour, which I believe to be the only satisfactory method of breeding bees by selection in this country, where the native bee is black.† It was this cross that was made at the commencement of the work of breeding bees for the improvement of the honey-producing character which has now been carried on in Ripple Court Apiary for a good many years, and which has lately resulted in the production of a distinct variety, my "British Golden" bee.

As regards the temper of crossed bees, the "Golden Prolific" and "Extra Golden" varieties of my "British Golden" bee, which has been bred by selection for honey-production regardless of temper, are much better tempered during manipulation than ordinary English black bees. My assistant and I have especially noticed this during the past two autumns when driven bees have been introduced into the apiary, so that we have been enabled to handle them side by side with the "British Goldens" bred here. Half-breds between English and Italian bees, and the later generations, which are dark-coloured, are sometimes not quite so good-tempered as English bees, but anyone who understands how to handle bees can handle them without difficulty, and it is often such bees that produce the very largest yields of honey.

I am very much interested in cross-breds between the English black bee and my "British Golden" bee, particularly in the half-breds—that is to say, in colonies that are headed by "British Golden" queens mated to English black drones, as it is by these bees that the value of the "British Golden" bee for honey-production in Britain is best proved. The matter is being tested extensively with the numerous "British Golden" virgin queens which are being distributed to various parts of the United Kingdom each season. Some excellent reports of these have been received this year. As the "British Golden" variety is a new one, and will probably continue to develop and to vary a little for some time, it may be a little while before its full value is known.

* As an indication of the comparative popularity of cross-bred and native bees in Switzerland, let me quote "Nemo," who, in the B.B.J. of May 9, 1907 (page 181), says, in an extract from an article from the *Bulletin de la Société Romande d'Apiculture* on the different races of bees cultivated in Switzerland, that in answer to the question, "Which race do you prefer?" ninety-five bee-keepers preferred the crosses of different races, while ninety preferred the common black bee of the country. Probably many of those who preferred the natives had not given cross-bred bees a trial.

† See my paper read before the British Bee-keepers' Association on March 22, 1906 (reported in B.B.J., vol. xxxiv., page 132), and also my article in B.B.J. of January 17, 1907.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

AMONG THE BEES.

[6957.] *Australian Honey.*—Are we to have an invasion of Australian honey? At a bee-keepers' meeting at Adelaide the chairman intimated that about seven tons of Australian honey had been sold in London, that another ten tons had been cabled for, and that they expected a further order for twenty additional tons. The net proceeds were expected to work out at about 2½d. per lb. to the consignees. A movement is on foot to inaugurate a Bee-keepers' Association in each of the States, with a federal body representing the Commonwealth as a whole, to which the minor societies could be affiliated. The price quoted would lead us to infer that the honey already disposed of may have gone to the manufacturers rather than to the tables of even the working man.

The Pedigree of the Drone.—Now and again we find in various bee-papers a little wordy warfare about drones from poor queens, unfertilised queens, or even fertile workers' eggs being capable of fertilising queens. While not inclined to write them down as incapables, we have excellent reasons for thanking goodness that they very rarely indeed aid in perpetuating the race. I have no hesitation

in saying that the resulting queen would be poor, and inefficient as a paying speculation. Reasoning by analogy, as similar pedigrees prove defective in biped and quadruped, how can they be otherwise in insects, parthenogenesis notwithstanding? Every one of these "mongrels" should, as far as possible, be eliminated from our apiaries as undesirable. The pedigree of the drone should in every way be above suspicion, and strenuous efforts should be made to have only those from our very best queens flying freely, while our nuclei or mating-boxes are headed by newly-reared queens.

The Claustral Hive.—The interesting information on page 501 of the B.B.J. for December 19 last, that this appliance is now freely at the disposition of bee-keepers in this country, should give a new impetus to experimenting in various ways with an invention which has, so far, been too little heard of. It is claimed that by its use hives can be shifted about at any time and for long or short distances, that bees can be kept in nuclei without returning to the parent domicile, that robbing can be stayed at the will of the bee-keeper, and that, for various reasons, a colony can be kept prisoners for a lengthened period without any danger of harm. But it is as a bee-preserver in stormy winter weather that, in my opinion, its chief advantage lies. So many bees are yearly lost during bright blinks of sunshine with snow on the ground that any means of confining them without bringing about a worse injury would be welcome. This the claustral hive supplies. It would be of great service if some of those who have experimented during the past three years would give us results showing benefits and advantages. Mr. Pidduck (see illustration, page 115, vol. xxxv.) might kindly reply.

Interesting.—In stormy winter weather the lips are often inclined to crack, and the sensation is frequently very painful, especially on a frosty day with a cold wind blowing keenly. If, when this trouble arises, the lips are rubbed over with a salve of honey and glycerine mixed in equal proportions, it will restore them to a normal condition. As a preventive a little rubbed on will keep the lips moist and hinder cracking.

Vitality of Eggs.—Some bee-keepers have lately been exercising themselves in the B.B.J. over this question. Here is what a learned doctor and a leading apiarian of his time believed in:—"Eggs laid by a queen in late autumn lay in the cells all winter until the genial heat of spring hatched them." Further, he contended that if bees died out during the winter the bees domiciled in this hive could "resurrect" a future colony from these eggs. I would not recommend a trial of the scheme, because I feel confident it would end in disaster. While eggs will stand a fair amount of cold, their chorion being pretty tough and consistent, they utterly fail to hatch if they have to endure much cold, or if they lie by any considerable time out of the heat-giving cluster. Bees as a rule eat these eggs or throw them outside to make way for the queen's regular egg-laying excursions. As a fact, eggs a short time out of the cluster never hatch, because I believe their vitality is impaired.

The Wax-cake.—I have no great fondness for wax-rendering. Indeed, it is the only operation connected with bee-keeping that I dislike to engage in, and I generally put off the evil day as long as possible. I never get half the amount of wax I now and again read of. I have been at it again lately, so I picked up a few hints which I may give for the benefit of readers. The messy refuse of the cake sinks to the bottom, and is easily scraped off if the process takes place when the wax is warm. If left until the cake turns cold a good part of the wax has to be cut off with the dross to leave a clean cake. A constant trouble is to get the lump whole. Nine times out of ten it cracks badly. This is hindered by very slow cooling. Left in the kitchen oven, this cooling is so gradual that the cake remains solid. Again, if the pan is placed in a larger pan with boiling water all round, and this heat kept up mildly for a time, no cracking takes place. Better still, if the vessel is coated with glycerine the cake remains a solid mass without any signs of cracks. When old combs are being run down, a little sulphuric acid improves the appearance. Several believe that some salt thrown in while boiling makes it look better. When rendering wax for the show-bench only pure combs never bred in should be used, or "cappings," when extracting, do very well. Some of those who show wax might perhaps be induced to give us their mode of procedure in preparing their cakes.—D. M. M., Banff.

EXPERIENCES OLD AND NEW.

PACKING HONEY FOR LEADING SHOWS.

[6958.] Now that the season of last year is entirely over, we have time to reflect on experiences old and new. In our part of Scotland the season cannot be said to have been a failure, but the crop has been rather under the average. The best average I have heard of hereabouts is about 30 lb. per hive surplus. My own take per hive is slightly over this figure,

(*Continued on page* 16.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

Bee-keepers who entertain the idea that bees cannot do well when located on railway embankments, or in locations where passing trains cause vibration in the hives, will be reassured on reading the following "notes," written at our request by Mr. Willan, who says:—

"I started bee-keeping five years ago with a driven lot given to me by an old skeppist friend—now in his eightieth year—who, by the way, still keeps bees in the old-fashioned skep, and firmly believes all the old superstitions regarding them. The hives seen in photo are facing south, and the bees have to rise over the embankment of the Great Northern Railway, which runs directly in front of the hive-stands.

MR. R. WILLAN'S APIARY, SALT, STAFFORDSHIRE.

Over this embankment the bees come and go in thousands, regardless of passing trains; and I fear that many a little loaded worker comes to an untimely end in so doing. It is also very noticeable that they do not seem to mind the constant vibration which must be plainly felt in the hives.

"I bought my first hive—a 'W. B. C.'—as a pattern, and made the others myself from used boxes. Not being a carpenter, but merely a platelayer on the railway, they are rather roughly constructed. A little paint, however, soon hides a lot of faults, and when done every year they look all the better. The stock in the middle hive of the back row was an artificial swarm—my first attempt at making one. I followed closely the instructions in your valuable 'Guide Book,' and they did splendidly, in spite of the many warnings of my old skeppist friend, who declared that they would never do any good. I am yet only a novice, and have a good deal still to learn. I must also confess that the little experience has been rather dearly bought, for I have been badly stung on several occasions, mainly through my clumsiness; yet it has been for my own good, having now learned to handle the bees with more care and tenderness. My better half, seen standing beside me in photo, is a real bee-man's wife, and a most capable assistant, hiving the swarms and doing a lot of other work, besides keeping a watchful eye on the apiary whilst I am following my daily occupation on the railway line. There is very little trouble in disposing of honey here, and we can always get 1s. per 1-lb. jar of extracted honey for all I have had to dispose of. On the other hand, we have no demand at all for section-honey.

"The past season has been a poor one here; in fact, I have only obtained 40 lb. of surplus from the five hives, yet that more than repaid for the feeding that was absolutely necessary for the poor bees during the long continuance of wet, cold, and windy days we had during the past summer. My friend the skeppist obtained no surplus whatever. In conclusion, you must allow me to tell you what a great help the 'Guide Book' is to me, as are also the questions that are answered for me and others in the B.B.J. week by week by our worthy Editors."

("*Experiences Old and New*," *continued from page* 14.)

including both clover and heather; but prices have been good and honey very easily disposed of. Personally, I had not enough. Clover-honey was sold at 10s. to 12s. per dozen 1-lb. jars or sections, and heather sections 1s. 6d. to 1s. 8d. each.

There is one question that someone really should write about; that is, the packing and returning of exhibits from shows. I believe one of the things that keep Scotch bee-men from sending honey to Southern shows is the fact that they do not know whether they are likely to get it back in anything like decent order. After a certain show in England this season I wondered why a crowd of bees and wasps followed the railway delivery van. I was, however, not long in having it explained. A friend of mine, a bee-man who had an exhibit at this show, sent for me urgently. He had received back his exhibit, and in such a mess as to discourage him from honey-showing for the next ten years. And the packing was entirely to blame for it. I have also seen others since which point in the same direction, that those who are responsible for the packing and return of exhibits from even the principal shows are in many cases apparently not qualified in the most elementary way to pack a parcel of honey for safe transit. Experts they may be at handling bees, but what use is that, if the youngest apprentice in a grocer's shop could give them points and beat them hollow in packing a simple parcel of honey to be safe? Is there no qualification needed by experts in this direction before getting certificates? If not, I really think it is high time something was instituted. I hope this matter will be taken up again in your pages, and not allowed to rest until the bee-keeping public has been thoroughly awakened on the subject and some movement made in the direction of remedy.—BEEMAN, Scotland.

[We are sorry to hear so serious a charge made against English "experts" with regard to repacking honey from shows, and if our correspondent will kindly assist us in fixing liability, we will endeavour to learn what there is to be said on the other side. It must not be forgotten that there are two sides to every case, as we know very well from experience of shows and showing. If the show in question is named, we have little doubt of our being able to throw some light on the subject, without committing our correspondent in any way. We are, of course, assuming that the show referred to was an important show, with an expert in charge of the packing and staging.—EDS.]

CATCHING AND HIVING SWARMS.

[6959.] Perhaps you will kindly allow me the privilege of making a few comments on the Editorial footnote to my questions on the above subject in the B.B.J. of December 19 (page 503). First let me say I asked those questions because to my own mind the methods of swarm-introduction at present in vogue are not satisfactory, and in order to alter this state of things I have designed what I consider to be improvements on all other methods that I have seen or heard of. What I asked was whether any similar method already exists, and I thought the Editors would be the right persons to apply to under the circumstances.

In thanking you for the replies given, I must say that the impression conveyed to my mind on reading them was, first, that you did not know of any such device as was suggested in my questions; secondly, that you considered present methods of swarm-introduction, as explained in the "Guide Book," to be quite satisfactory except for those who were not adapted for bee-work, and that unless for such the risk of failure is very slight, except in special cases; thirdly, that you are aware that swarms sent long distances are often rendered failures through accidents in introduction; fourthly, that you did not see how a swarm could be transferred "automatically" into a hive; and, lastly, that you could not answer No. 5 unless favoured with a view of the contrivance I have in my mind.

I may here mention that it was not intended that in the meantime you should understand how the operation referred to is carried out, my intention being to describe only what this contrivance was capable of doing.

I consider you have not replied to my queries No. 2 and No. 4, because I failed to see, either on pages 22 and 23 of the "Guide Book" or in the illustration on page 495 of B.B.J. for December 12, bees being automatically transferred into the interior of the hive, or the bees prevented from taking wing. As regards query No. 7, I cannot think you meant me to take the advertisement to which you referred me as an answer to this, but that in doing so you had another end in view.

All the same, I thank you for the trouble taken in replying, and I am willing to leave both questions and answers to the consideration of your readers.

I now come to the Editorial remarks made "by way of preface." My candid opinion of this part of your reply, so far as I was concerned, was not complimentary to yourselves. At any rate, I feel that I have been held up to ridicule and misrepresented. This being so, I hope you will allow me the opportunity to say a

word by way of self-defence. In the first place, I am represented as having put ridiculous questions, such as would not have been put if I had had an opportunity of studying "up-to-date bee-keeping" as now practised in England. You also seem to infer that I am lacking in experience of bee-manipulating, and as having a dread of bee-stings. If this is so, I beg to say I did not mean to convey those impressions. In that case the words of our poet Burns apply to me—

O wad some power the giftie gie us
To see oursels as others see us!

Nor can I avail myself of the excuses you considerately make for me. I have—in Scotland too—seen live bees handled in a tent by qualified experts. But, supposing I had not done so, nor had the opportunity of studying up-to-date bee-keeping as now practised in England, surely it would not have been impossible for me to have had experience in bee-manipulating?

As a matter of fact, I have been doing the work of a large apiary for about forty years, and my opportunities of gaining experience in handling live bees may therefore be admitted. If not, a great many Scotch bee-keepers besides myself will have to take a back seat. I must confess that all I know about up-to-date English methods has been acquired by studying (along with other publications) those proceeding from the office of the B.B.J. I may say the same of my knowledge of up-to-date bee-keeping as practised in the U.S.A., viz., by studying American bee-literature.

In connection with my supposed dread of stings when introducing swarms, I do not consider that a fair inference to draw from my second question. I did not say that I myself dreaded and disliked the operation, but if you will take a look at the illustration on page 495 of B.B.J. to which you draw my attention, it will explain what I really do dread. It will be seen that the swarm has been thrown out in the orthodox manner; the bees are boiling over the front and side of the platform down to the ground, and there is also a commotion at the entrance of the adjoining hive, caused, I have no doubt, by the presence of bees from the swarm. Now, what I dread in like circumstances would be the possibility of the queen joining those flying bees and entering the other hive, or being lost in the "boiling-over" process. I admit this does not often take place; but there is always a possibility that it might.

If, then, it is admitted that there is a chance of failure in this method of what I would call "open-driving introduction," would it not be wise to adopt some other method by which this risk would be entirely prevented? One word more about stings. Who wants to be stung? I have not met anyone yet but would prefer to avoid stings. Why do experts use smokers and other means of subduing bees? What about those ladies and gentlemen—I know numbers of them—who are fond of bees, but have a dread of stings, and who have good reasons for their fear? Surely any means whereby the risks could be lessened to those of both failure and stings, as well as to experienced manipulators, should be considered worthy of consideration? A. REID, Balloan, Muir-of-Ord, Ross-shire.

[One of our most trying duties as Editors is to avoid giving offence, even by inference, to correspondents who favour us with their valued contributions for print. We claim that articles appearing in the B.B.J. are almost wholly written by bee-keepers *for* bee-keepers, and are justly proud of the fact, for therein lies its main strength. Moreover, it is well known that both Editors have had a long and varied experience in all that pertains to the craft. It should also be borne in mind that we are supposed to maintain the balance fairly between bee-keepers diametrically opposed to each other on some points. This is no easy matter in replying to queries, considering that most of the questions received are from men we have never seen, of whose abilities as bee-keepers we have no knowledge whatever, and can only estimate from the way in which their queries are put. This is what we have done in the case in question; therefore, unless we can have Mr. Reid's invention before us in order to form an opinion upon its merits, by comparison or otherwise, it is impossible to do more than we have already done. Meantime, we are equally content, with our correspondent, to be judged by what appears in the Editorial footnote to his letter on page 503 of B.B.J. for December 19.

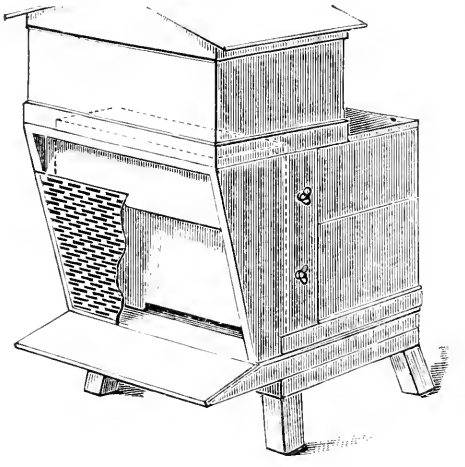
On the other hand, when writing the footnote mentioned, we were anxious to have some clear idea of what Mr. Reid's method or plan was like before venturing a definite reply to question No. 5, and, failing a sight of the contrivance itself, wished for some kind of sketch of his invention. As this has not been furnished, we now reprint the following from the B.B.J. of over fourteen years ago:—

"THE 'HOOKER' SELF-HIVER.

"The latest contrivance designed for the purpose of accomplishing the self-hiving of swarms is that devised by Mr. J. M. Hooker, and, as will be seen in the 'cut' below, consists of an arrangement for affixing to the front of an ordinary frame-hive. To ensure its being more readily understood, a portion only of the queen-excluder zinc—which covers the whole of

the hive front—is shown, the space between the top of the zinc and the roof being also, of course, covered in with wood.

"The stock hive, as seen in the illustration, has above its brood-chamber an ordinary shallow-frame box, or a rack of sections. When being prepared for action, the quilts are removed and replaced by a board half an inch thick. The 'hiver'



is then fixed, and held in its place by thumb-screws at each side. This done, the hive, already prepared to receive the swarm, is placed in position overhead, projecting beyond the parent hive, and flush with the front of the 'hiver.' It thus overhangs the oblong space indicated by dotted lines, this space forming the roadway through which the swarm—passing up the inclined plane afforded by the inner face of the excluder zinc—enters the hive prepared for it.

"The construction of the hiver is so plainly set forth in the sketch that anyone handy with tools will be able to make it for themselves. As it is neither patented nor registered, it is open for manufacturers to make it for sale, the designer only asking that it shall be named the 'Hooker" self-hiver in order to distinguish it from others."

There are also to be found in earlier volumes of the B.B.J. descriptions of several "hivers" to which we might refer; but as we learn that our friend Mr. Reid has kept bees for so many years, he may be conversant with them. If not, we will be glad to give dates, &c.—EDS.]

SECURING STRAIGHT COMBS.

[6960.] Referring to the letter in B.B.J. of January 2 (6956, page 7), it is surprising to me that so much is said about "crooked combs." For myself, I really do not know what they are; neither am I troubled with brace-combs. If asked how I steer clear of these "faults" in bee-keeping, I may say it is absolutely essential that all frames hang square and true—*i.e.*, do not "wind." The top-bar must also be so fastened on that the frame hangs "plumb." If these points are carefully seen to, the bottom-bars are of necessity spaced at equal distances apart. I have seen frames made by amateur joiners so twisted that they would barely pass through a wide doorway.

Thick versus Thin Combs.—I note that Mr. Woodley gave his views on this subject last week (page 3); but when the question comes to be dissected there is exactly $\frac{3}{8}$ in. difference between thick and thin combs. Sub-divided, that means $\frac{3}{16}$ in. deeper cells on each side. Without venturing on a decided opinion, this seems to me very like "splitting hairs." If Mr. Woodley has only used "wide ends" two or three years, the combs he refers to would, of course, be comparatively new ones. It would help others in forming an opinion if he gave some idea of the comparative ages of his thin combs. It is known that old combs are less easy to extract from than new ones; or does the honey ripen quicker in old combs?

Wiring Frames.—I am surprised to read of the complicated job many make of wiring frames. Expert hands are said to only "wire" at the rate of a dozen per hour. My own experience is that two wires running parallel with the top-bar—one about $1\frac{3}{4}$ in., the other $4\frac{1}{2}$ in. from top-bar—are sufficient to support the comb safely. I find that combs in brood-nests are usually occupied with brood up to about $1\frac{3}{4}$ in. from the top-bar, and this is, therefore, the weakest part of comb. With a fine bradawl make the four holes necessary; thread wire through, and fasten to two fine wire pins, first pulling the wire taut with small pliers. Time occupied in wiring thirty or thirty-five in this way, one hour. I prefer far stronger wire than that generally used. With very thin wire the comb will fall out of frame of its own weight when wires rust, as they will do. The foundation should not be attached to lower sides of frames for about $1\frac{1}{2}$ in.; that allows for stretching of foundation, and if wires are lower than $4\frac{1}{2}$ in. from top-bar the foundation is liable to buckle. Four or five duckwing feathers, neatly wired together at the tips and trimmed to the size of a small teaspoon, make the best of "tools" for running molten wax around the frames, and it takes less than two minutes to each frame. With these feather "spoons" the molten wax can be worked in and made to attach itself perfectly to the foundation and wood,

whereas with an ordinary teaspoon the attachment is very weak, and it takes far more wax.—A. H., Wavendon, North Bucks, January 6.

"ROYAL" SHOW AT NEWCASTLE.

SUGGESTED CONFERENCE OF BEE-KEEPERS.

[6961.] As notified in the B.B.J. of December 26, the Royal Agricultural Society of England will in the coming summer hold its show as far north as we may expect it to go for some time to come, and I would like to suggest, if it be possible, that a meeting or conference of British bee-keepers might be arranged to take place during the show week at Newcastle-on-Tyne. An opportunity would in this way be given to bee-men from all parts of the country to meet for friendly discussion of any matters of general interest that could be introduced. If only as an opportunity for meeting and making the acquaintance of some of our advanced bee-keepers, whose names are household words with so many, such a gathering would well repay the trouble of arranging. A friendly discussion and exchange of ideas could only result in lasting good to those attending. Should you think fit to make this suggestion through the JOURNAL, the Northumberland and Durham B.K.A. might see their way to take the matter up and make the necessary arrangements.—G. W. AVERY, Hon. Sec. and Treas., Cumberland B.K.A.

MY SEASON'S REPORT.

[6962.] I beg to send a few extracts from note-book for this year, 1907:—Number of stocks (spring count), 4; swarms (natural), 4: 1-lb. sections (heather), 170; weight of extracted honey, 60 lb.; weight of wax, 5 lb. Sections realised 1s. to 1s. 3d. each; extracted honey 10½d. to 1s. per lb.

I do not think I have done badly for a beginner in a very adverse season, as no honey was got until the fine weather came. No doubt if I could give more attention to the bees they would have done better, but as no feeding had to be done, the cash got for the honey is mostly profit. I am only able to keep four stocks in winter, owing to want of room. I destroy the old queens and unite under the young ones when reducing the number of my stocks to four. Mine are some of the worst-tempered bees in creation; sometimes they will sting whatever comes in their way. I found two stocks queenless this autumn; anyway, there was no brood, but plenty of honey in super (unsealed). Had a lot of bother with the wax-moth in brood-frames. Am going to try the "Hoffman" next season, as I find they work along the groove in frames I have. After trying all sorts of sections this year, I shall give up the four-beeway in future. Trusting we shall have a more favourable season in 1908.—FORESTER, New Forest, December 19.

"BRITISH BEE JOURNALS."

A HAPPY SUGGESTION.

[6963.] Last winter I spent many happy hours in reading the early numbers of our journal, which are in the B.B.K.A. library. I naturally studied with interest the development in the production of comb-honey. Unfortunately, many volumes are not in the library. As our late worthy President generously helped to build it up, may I suggest that in her memory a special effort be made to supply the numbers that are wanting, and in other ways improve the library? I should like to peruse Nos. 4, 7, 12, 13, and 16. If someone who has them will kindly lend them I shall be greatly obliged. Wishing all a happy and prosperous New Year.—RICHARD M. LAMB, Burton Pidsea, Hull, January 4.

Queries and Replies.

[3649.] *Editorial Articles for Beginners.*—Might I suggest that an article appearing weekly in the BRITISH BEE JOURNAL from one of the Editors would greatly enhance the value of the journal—at any rate, in the eyes of beginners—and would be highly appreciated?

The correspondence of brother bee-keepers, although, no doubt, of great benefit to experienced bee-keepers, does not carry the same weight that a series of articles from a well-known authority would do. Name sent for reference.—A BEGINNER, Burwash, Sussex.

REPLY.—The obvious difficulty in carrying out our correspondent's suggestion is the fact that a continuous series of articles such as those mentioned must naturally be progressive—*i.e.*, taking a whole course of lessons in bee-keeping; so that in a year or less the lessons would cease to be applicable for "beginners." The only practical method by which beginners can become capable bee-keepers is to obtain a reliable "text-book," and, after studying it carefully, take its lessons to heart. The alternative course is to write us when difficulties arise, and we will do our best to remove them. What is really annoying, to say the least, is that when "beginners" have possessed themselves of the best information the

author can give them in the "Guide Book" they write to ask us to explain *why* the methods dealt with therein are to be considered the best, and why plans proposed by themselves as improvements should not be adopted.

WEATHER REPORT.

WESTBOURNE, SUSSEX,

December, 1907.

Rainfall, 3·62 in.
Heaviest fall, ·64 on 13th.
Rain fell on 18 days.
Above average, ·94 in.
Sunshine, 46·7 hours.
Brightest days, 14th and 15th, 5·3 hrs.
Sunless days, 13.
Below average, 11·5 hours.
Maximum temperature, 56° on 8th.
Minimum temperature, 28° on 6th.
Minimum on grass, 22° on 7th.
Frosty nights, 7.
Mean maximum, 46·1.
Mean minimum, 37·6.
Mean temperature, 41·8.
Above average, 3·5.
Maximum barometer, 30·309 on 17th.
Minimum barometer, 28·938 on 14th.

L. B. BIRKETT.

WEATHER REPORT

FOR THE YEAR 1907.

WESTBOURNE, SUSSEX.

Rainfall, 30·96 in.
Heaviest fall, 1·05 on May 31.
Rain fell on 185 days.
Above average, 10 days.
Above average, 1·87 in.
Sunshine, 1,734·2 hours.
Brightest day, July 17, 14·9 hours.
Sunless days, 55 (below average, 6 days).
Below average, 100·2 hours.
Maximum temperature, 76° on July 16.
Minimum temperature, 20° on Jan. 24 and 25.
Minimum on grass, 18° on Jan. 24.
Frosty nights, 51 (below average, 22).
Mean temperature, 48·8.
Above average, ·5.
Maximum barometer, 30·735 on Jan. 23.
Minimum barometer, 28·938 on Dec. 14.

L. B. BIRKETT.

DECEMBER RAINFALL.

Total fall, 3.84 in.

Heaviest fall in 24 hours, .71 in. on 13th.

Rain fell on 23 days.

TOTAL RAINFALL FOR 1907.

Total fall, 35.60 in.

Heaviest fall in 24 hours, 1.89 in. on July 21.

Rain fell on 218 days.

W. HEAD, Brilley, Herefordshire.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

*** ERRATUM.—Our attention has been drawn to an obvious printer's error in seventh line of "Reviews of Foreign Bee-Journals" (page 511, in B.B.J. of December 26). The line should read: "with regard to *these*," not "bees," as printed.

X. Y. Z. (Penarth).—*Buying Honey from Advertisers.*—Honey as sample sent that cost you 8d. per lb. when received, including carriage, was an exceedingly dear purchase. But it is impossible for us to accept responsibility with regard to the quality of produce offered for sale in our columns. Purchasers are always supposed to purchase by sample in honey-buying, as with other things, unless the seller is either known or gives a description as to quality. No one can be more desirous to see justice done between buyers and sellers than ourselves, but the former should certainly exercise ordinary business methods when purchasing. You might convey our views to the seller, and ask if he will make some rebate.

R. H. (Woodeaton).—*Bee-forage and Clovers.*—1. The numbers of the B.B.J. in which the information you seek is to be found are April 18 (page 159), August 1 (page 309), and December 12 (page 496) last year, which may be obtained from this office price 4d., post free. 2. No charge is made for replying to the queries of our readers.

Suspected Combs.

J. TODD (Barnard Castle).—Your sample of comb, being old and black, is very suspicious in appearance, owing to the dark-coloured sunken cappings of sealed cells. It is, however, perfectly free from disease, and contains nothing worse than fresh pollen and good honey. We cannot account for the bees dying out, unless the queen was old. The honey is quite good for use, but we should burn the combs, as being too old for further use, and hardly worth melting down for wax.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, PURE ENGLISH HONEY, 1 cwt. light colour; sample, 3d.—LAW, Cuckoo, Ashwell, Herts. d 77

A FEW VERY FINE WHITE ORPINGTON COCKERELS, big bone, heavy birds, 7s. 6d. and 10s. 6d. each. Approval.—WHITING, Apiaries, Hundon, Clare, Suffolk. d 76

SPLENDID GENEROSITY. — Members of B.B.K.A. assembled in Dairy Week, 1905, by voting for 2 in. width or 18 oz. section, were giving away two tons from 18 tons of finest British Honey! A better section because nearer 1 lb. is size 5 by 4½ by 1½, stocked only by G. Rose, 50, Great Charlotte-street, Liverpool; two sample Frames for above, with revolving fence, post free 1s.—Address, REV. R. M. LAMB, Burton Pidsea, Hull. d 74

TO BE SOLD, 4 "W. B. C." Hives of healthy Italian Bees, also appliances. Owner going to America. What offers? Particulars sent.—HOMEWOOD, Howfield, Chartham, Canterbury. d 73

1 CWT. PURE HAMPSHIRE DOWN HONEY, at 5½d. per lb., on rail; sample 3 stamps. — S. G. LEIGH, Broughton, Hants. d 80

6 DOZEN NOMINAL LB. S.C. GRANULATED, slightly dark, 7s. 6d. dozen.—DEAN, Bower Vale, Epping, Essex. d 79

2 100-EGG TAMLIN'S INCUBATORS, £2 each, perfect condition.—ALBERT COE, Apiary Hall, Ridgewell, Halstead, Essex. d 75

PURE HAMPSHIRE HONEY. 3 gross 1 lb. Screw Top, Glass, 9s. dozen. — DENNETT, Whitchurch, Hants. d 81

HIVES FOR SALE.—Will dispose of cheap, used one and two seasons only, and some perfectly new, guaranteed not to have contained diseased bees.—Full particulars on application, SIMS, Hall Green, near Birmingham. d 78

BEE-KEEPING MADE EASY.—A New Hive. As I have had so many dozens of applications for particulars of my new Hive, the price of patent, &c., I give notice that no further information will be given till the patent is sealed. All particulars will then appear in "Bee Journal." I find it impossible to reply to so many individual applicants.—D. DAVIES, Second-Class Expert, Abergwili. d 72

FOR SALE, APIARY 40 STOCKS, modern appliances, orchard, well situated in Kent.—Particulars from OWNER, care of "Bee Journal." d 58

FOR SALE, eleven Stocks, in "W. B. C." Hives, six Skeps, surplus appliances, in good condition. Further particulars on application for offers.—COWLISHAW, Edenbridge, Kent. d 48

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

WANT TO EXCHANGE, Bound Volumes of "Bee Journal," from Vol. 2 down, for Bound Vols. "Bee Journal," any year from 1889 to 1907.—HERROD, Apiary, Luton. d 38

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CHAPMAN HONEY PLANTS.—Extra Strong Plants, to blossom 1908. 12 3s., 6 1s. 9d., package free; Seed, 6d. and 1s.—JOHN P. PHILLIPS, Spetchley, Worcester. c 34

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ROYAL SHOW, LINCOLN, 1907.

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"WEED" Foundation, Sections, Frames, and Separators are now in Stores at London and Liverpool. W. BOXWELL,

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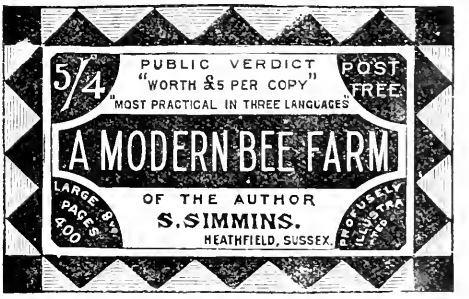

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The

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AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &C., AND W. BROUGHTON CARR.

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

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Editorial, Notices, &c.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of December, 1907, was £941.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "THE EDITORS of the 'British Bee Journal,' 8, Henrietta-street, Corent Garden, London, W.C." All Business Communications relating to advertisements, &c., must be addressed to "THE MANAGER, 'British Bee Journal' Office, 8, Henrietta-street, Corent Garden, London, W.C."

NOTES BY THE WAY.

[6964.] We have had a spell of severe frost since I last wrote, and, in consequence, the bees have for some time been confined to the hives. We shall be glad when the thermometer shows something like normal weather conditions. Of course one does not expect spring warmth yet, but 16 deg. of frost is too low for the comfort of our bees. The long evenings give time for reading up subjects in which we bee-keepers are interested, and for evolving our plans for next season's work in the apiary. I notice that in the advertisement columns of the B.B.J. we are promised a new patent hive which, according to the inventor's description, will make bee-keeping easy for anyone. This will be very nice for those who contemplate embarking in the business, but to us older hands who are already stocked with hives it will not reduce our labour in honey-production unless it contains some adaptable "kink" that we can attach to our existing hives. Of this more anon when the secret is out. I guess some are on the tiptoe of expectation for a good thing that will make our craft "o-so-eesi."

I notice that the annual convention of the Ontario bee-keepers was held at Toronto in November last, and, notwithstanding their foul brood inspectors' work for many years past, they have not yet cleared out that disease. Inspector Armstrong had visited 212 apiaries and found disease in 103 of them. Other inspectors report two-thirds of the apiaries diseased. These facts should teach us that the possibility of eradicating foul brood by travelling inspectors is very remote indeed. I notice also that European foul brood is mentioned as being very dangerous. Canadian bee-keepers are also adopting some of our methods, as they advocate sugar only as bee-food, never with honey.

An inquirer wishes me to say in the B.B.J. if I consider it advisable for him to start a bee-farm as a means of livelihood. I have no objection in giving my views on the subject, and therefore say: There are many points that make for success or failure to a person who admits he knows little about the business. The "pitch" in the right district, where there is a succession of honey-producing plants, is the most important; second in importance is the "man," his energy and adaptability to the craft. During the season one must work untiringly among the bees early and late if a year's income has to be produced in about two months, that being about the time the ingathering lasts. There is much labour both before and after the honey-flow, and the successful man must have everything thought out and ready, the bees especially, and every appliance to hand; and from the first to the last day of the harvest the bees must be kept gathering. Swarming also must be under command of the bee-master. These are a few of the chief points. I could fill a B.B.J. with other hints; but "pointers" in plenty will tell the new hand some of the difficulties ahead. W. WOODLEY, Beedon, Newbury.

THICK AND THIN COMBS.

[6965.] I notice that Mr. Woodley, in his "Notes by the Way" (page 3), proves by his difficulty in extracting thin combs that they contain honey of greater density than thick combs; but, as he gives no reason why the same difference may not be probable in thin and thick sections, I will assume that the same is true as regards sections, and we shall see that it is of peculiar value in producing comb-honey, and just because sections are not in the same category as shallow-frames. There are several points of difference between, but all are connected with the general intentions of the producer. He who tries for sections endeavours to present to the consumer the honey-bees' finished produce, filled and sealed by them in their own little bottles, which may be consumed wholly, bottles and all;

whilst to him whose object is extracted honey the comb is but a temporary receptacle; after the bees have done their work the bee-keeper does his: extracts, strains it may be, ripens—then bottles the honey. Or, looking only on one aspect *density*—it is more important to use thin sections, which contain the best ripened honey, than to be particular about the thickness of shallow-frames; as the honey in the latter may be improved after extraction or by being kept longer on the hives, but sections must be taken off as soon as they are complete to preserve their pearly whiteness. Of course in every other respect we must give the bees every facility we can to enable them to store perfectly their choicest product.

To obtain large quantities of extracted honey Mr. Woodley says he would use thicker combs. For the same purpose, having for years tried both, I would use the thinner. I do not dispute that a super with eight thick frames completely filled will weigh more than the same super with ten frames, or, again, if six frames were given to the same super, and were well worked out, they would weigh heavier than the eight frames. But I do say from experience that a stock which filled an eight thick-frame super would in the same time, if supplied with ten thinner frames, complete one super and fill a good portion of another; so that the quantity of honey in the latter case, though in two supers, would exceed the former. Taking also into account better density and less risk of swarming, when working with thin combs, I reckon that they are the more profitable. But surely this is a matter simple enough for most bee-keepers to test by experiments.—RICHARD M. LAMB, Burton Pidsea, Hull, Jan 11.

NOTES FROM NORTH HERTS.

[6966.] *Wax-rendering.*—This subject, mentioned by "D. M. M." on page 14, is less trying if the "Gerster" extractor is heated on one of the stoves that burn petroleum vapour under pressure. Steam is produced so rapidly by one of these "roarers" that a steady flow of liquid wax is kept up and the work is soon over. If the combs have been bred in, it is advisable to soak them in rain-water before operating. My own plan is to throw them into a pan of rain-water and leave them a day or so, when the cocoons become so thoroughly saturated that they are unable to take up the liquid wax.

Cross-bred Bees.—In the *Bee-keepers' Record* for January there appears a complaint from "Robin Hood" to the effect that bees are more vicious than formerly, and the alteration for the worse in temper is attributed to the dash of Italian blood that they now have. Now, although this crossing is undoubtedly a disturbing element, I think it possible that the trouble may be partly due to the modern system of bee-keeping. The great apiarist Dr. Dzierzon, many years ago, expressed the opinion that the customary mode of keeping bees and the pasturage of the district caused the bees of one district to vary from those of another. Since the formation of the British Bee-keepers' Association the mode of keeping bees has so completely changed that modifications have possibly taken place as a consequence. When the brimstone method of honey-taking was in vogue we may be certain that a vicious stock had a poor chance of escaping at the annual "take up." If they were also good honey-gatherers their doom was doubly certain. This selective process undoubtedly modified the temper of the race, and its cessation would inevitably cause a steady reversion to a less docile type.

I have not found that Italians are given to robbing, although, like "Robin Hood," I have seen them passing freely in and out of some of the other hives. As I have also seen them defending these hives against wasps, the conclusion I arrived at was that, having mistaken their homes, they had been adopted by other communities. Where all stocks are of one race we are unable to detect these migrants, although they may be far more common than we imagine.

There is evidence that Italian bees are better able to withstand wax-moth and foul brood. As they have been subjected to a long course of selection in regard to these enemies, we should expect them to possess these characteristics, and also to pass them on in varying degrees to their cross-bred descendants. Like all advantages derived from crossing, selection is necessary to obtain the full benefit. Cross-bred poultry have developed into Plymouth Rocks, Orpingtons, &c. In other hands they would have probably degenerated into mongrels. Careful selection has evolved the modern racehorse from the old native breed crossed with Eastern breeds. Although the improvement of the bee by a process of breeding from selected individuals will probably remain in the hands of specialists like Mr. Sladen, much can be done by weeding out the undesirables, and if the bee-keepers of any district agreed to trap the drones from, and to re-queen, any of their stocks that possessed objectionable qualities not present in other strains of bees, an improvement would quickly be noticeable. Until we fix on a standard and breed up to it we cannot expect the bee to evolve in accordance with our wishes,

and if the perfect bee ever arrives selection will still be necessary to retain it.

G. W. Bullamore, Albury, Herts.

NOTES FROM SUSSEX.

[6967.] I am glad to note that we may hope to see photos of contributors in future issues of the B.B.J. Mr. G. W. Avery (6952, page 3), I should also like to say, is not alone in meeting with careless bee-keepers. I hope his words will reach the hearts of a few that I know will see them in print. The other day I reminded a bee-man of my acquaintance of the need for getting ready for the coming season. His reply was not encouraging. "I shall not," he said, "spend another penny on the bees till I have some return for my trouble," &c. That very man started last spring with one stock, and by the end of July had five good colonies, with enough stores to carry them through the winter—an increase of 400 per cent.! It makes one wonder what some men do want. I think our friend Mr. G. W. Bullamore (6954, page 6), in speaking of skeppists, has not quite hit the mark. I personally know more than a dozen skeppists, some of whom have had bees for upwards of twenty years; one boasts of having kept bees thirty years, and yet will not even look at a B.B.J. if I offer him one; neither will he listen to a word spoken in favour of a modern frame-hive, nor will he have his bees "driven" in the autumn, preferring to put them over the sulphur-pit. I have many times tried to save their lives, but all in vain. Referring to the letter of Mr. Alex. Reid (6956, page 7) on securing straight combs, it is no doubt true that many bee-keepers have interchangeable frames, but not interchangeable combs. Why? Just because they do not take the trouble to learn, or else are incompetent, and do not pay proper attention to the matter. To remove a frame and substitute a full sheet of foundation in the centre of hive, whether the combs already in are straight or not, shows poor bee-work and no skill in the craft. No good bee-man makes a mistake like that. My own plan is to remove a crooked comb whenever I find one. I may also say I have had the best and most evenly straight combs built from full sheets given to driven bees. I guess our friend Mr. Farmer has some nice straight-built combs under the same conditions. In fact, "driven" bees have never disappointed me in this direction.

Bad Sugar.—Last spring I was sent for to explain why sixteen out of twenty-four stocks of bees had died. On examination I could find nothing wrong, and therefore asked if they had been starved for want of food. The answer was: "No; I gave them heaps of candy." I therefore asked to see a sample of the candy, and on seeing it at once told the owner he had killed the bees with dysentery. He admitted it on being shown the plain signs of dysentery all over the flight-board. The candy was made of the cheapest and most common raw sugar. He saved £1, and lost nearly £20. I was myself caught napping two years ago, and sustained considerable loss through mice getting into and wintering in some of my hives which have large entrances. I find they are trying the same trick again, but I have stopped them with perforated zinc over entrances, making them too small for the mice to pass in. I send name and sign.—Bees' Friend, Hellingly, January 10.

CATCHING AND HIVING SWARMS.

[6968.] Your correspondent Mr. A. Reid, in his letter on page 16 of last week's B.B.J., makes some rather severe comments on the Editors' footnote to a former letter of his, and pointedly draws the attention of readers to what he calls a "commotion" during the hiving of a swarm by myself, as seen in the photo of my apiary (*vide* "Homes of the Honey-bee," December 12). As Mr. Reid happens to be altogether wrong in his assumptions with regard to the operation of hiving the swarm seen and in his way of making it "fit in" to his view of the case, may I say that the supposed "boiling over the front and sides" of the platform and the "commotion at the entrance of the adjoining hive" are purely imaginary on Mr. Reid's part? The bees were thrown from the skep in the orthodox way, but the extended alighting-board was hardly large enough to accommodate such a large swarm, and the bees naturally rolled over the sides until they regained a footing, when they immediately faced about and marched into their new home like so many soldiers. If that is what causes Mr. Reid's fears I do not share them. As for the queen taking flight and entering the wrong hive, such an occurrence is so rare as not to be worth troubling about.

If Mr. Reid has a contrivance that will do all he claims for it, we cannot blame him for pointing out its usefulness without stating that such a contrivance is really necessary to everyone. I am of course speaking as a bee-keeper of only two years' experience. With regard to the supposed "commotion" at the adjoining hive, I may explain that this is the parent hive, and was moved on one side to

allow of the swarm being placed on the original stand. The few bees seen on the flight-board were simply idling about the entrance, and scarcely any were on the wing. My opinion of the method of hiving shown in the photo is that it could not be improved; it is to me the simplest, easiest, and most interesting task in connection with bee-keeping I have yet experienced. I am quite unable to see why Mr. Reid should "feel that he has been held up to ridicule" and misrepresented. No doubt our Editors thought they were dealing with a novice like myself, for Mr. Reid's questions were to my mind certainly those of a beginner. —JOHN CHANDLER, Blackheath, S.E., January 11.

SWARM-CATCHERS.

[6969.] I read carefully the article of your correspondent A. Reid advocating some new fangles in bee-keeping, also his comments on your reply to same; and I have perused his new scheme as to swarm-catching, &c. My idea is, if you did err in your comments, it was in treating his ideas too mildly. I am no expert, only an old bee-keeper, who both reads and thinks, and am only too pleased at all times to accept any improvement in our appliances. To me Mr. Reid's plan seems to bring a maximum of trouble with a minimum of gain. I have always considered that one of the paying items in good bee-keeping was preventing swarming. If that can be nearly accomplished there is no need for swarm-catchers; the loss and trouble in natural swarming and hiving are so small that it is not worth trying to improve on them. Name, &c., sent for reference.—G. C., Oughtybridge, Sheffield, January 11.

PACKING EXHIBITS FOR SHOWS.

[6970.] I should like to say a word on this subject, as your Scotch correspondent "Beeman" (6958, page 14) is anxious that the matter should be taken up in your pages. No doubt some abler penman will have something to say on the subject, but, as a bit of a show-man myself, I venture to send a few notes, which if of no use may be dropped in the w.p.b. First, then, I think the safe packing of extracted honey in jars rests mainly with the exhibitors themselves in failing to send in a proper box for transit, so that the honey merely needs lifting out of the box and placing on the show bench, and *vice versâ*. The box should be made just to take the twelve glass jars, with corrugated paper between each, so that nothing is required but to take the honey out and put it back for return at end of show. One good screw in each box will safely hold the lid down. A section-crate or box should be made the exact size for twelve sections to fit in it easily, while allowing about 3 in. thickness of hay in the bottom. I find this answers better than crates with spring bottoms.

I have seen glass jars and sections in boxes at the London shows tied about six times round with stout string, and each section or jar wrapped in thick paper, which surely is not easy for the experts to unpack and repack; considering the amount of honey to be dealt with, there should be no unnecessary packing. I notice in B.B.J., September 21, 1905 (page 371), 1,800 jars were staged at one London show, to say nothing of sections, shallow-frames, wax, &c. This should give us some idea of the work involved. I certainly cannot conceive why the experts should be blamed for damaged honey, but rather would blame the carriers in transit, &c. I have seen huge piles of honey-boxes at stations and shows piled up on trolleys and barrows, and while being pushed along I have seen the top boxes fall off on to the ground! Can we wonder that honey comes back damaged? I presume this happened to my twelve sections returned from a London show last year, as not only were the sections all smashed, but the box as well. I made a new box last week, so *I* am not going to be discouraged for *ten* years, as I think these accidents are at times unavoidable.

After all, I think "Beeman" may congratulate himself on being able to make from 10s. to 12s. per dozen for clover-honey, also on his average honey-crop for 1907, as he says it is over 30 lb. per hive, whereas ours in the South is very much below this figure.

I will conclude by wishing all bee-keepers, including the Editorial staff, a prosperous year for 1908, and sign myself—THIRD-CLASS EXPERT, Berks, January 13.

THICK *VERSUS* THIN COMBS.

[6971.] I beg to ask Mr. Woodley, who refers to "thick *versus* thin combs" on page 3, if he has misread my queries on page 466 of B.B.J. for November 21 last year regarding the difference in honeys from these. What I want to know is, has he noticed any difference in the consistency of honey from sections (which are roughly 2 in. wide, and therefore hold combs as thick as do wide extracting-frames—eight to a box) and that from ordinarily-spaced brood-frames? If he has not, then I still contend that there is no difference in consistency of honey from thick and thin extracting-combs.

(*Continued on page* 26.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

Mr. Jepson evidently possesses the natural aptitude which is so useful to those who take up bee-keeping either as a hobby or with the intention of making it a source of profit. He has also made very good use of the time since first taking to the pursuit in 1905, considering that he only began in that year with one hive as a pattern to work from and a single stock of bees, yet he now possesses eleven colonies, all housed in good hives made by himself, including a "Wells," or

MR WILLIAM JEPSON'S APIARY, BRIERLEY, NEAR BARNSLEY, YORKS.

double-queened, hive, as may be seen in the orderly little apiary pictured above, which is creditable alike to his workmanship and for the suitableness of arrangement for shelter and shade. How all this has been done we leave our friend to say in the following notes. He says:

"I started in March, 1905, with one hive stocked with bees purchased from one of your leading advertisers, and with that exception all the hives seen were made by myself, helped only by the valuable hints got from the B.B.J. and the instructions given in the 'Guide Book.'

"My first natural swarm came off on May 7, 1906, and later on I made a nucleus colony from the parent stock, the latter being full of brood and bees. Not only so, but I got 30 lb. of extracted honey from the mother-hive the same year. I now have eleven good colonies, each on eleven frames and well stocked with bees. For a beginner I consider I have done very well, on the whole. That you may be able to form an opinion of ours as a honey district, I send a sample of my extracted honey, and will be glad to have your verdict on its quality for table use.

"Helped by my good wife, we manage between us to do all the work connected with the bee and honey business, which I regard as a most useful and interesting hobby. I am now going in for the bee-breeding business, and hope to make a success of it. This is about all I can tell of my brief experiences, and I fear it will not be of much interest to your readers."

[Regarding the sample of honey sent, it is of very good quality, almost wholly from white clover, and very suitable for table use. It is a well-known axiom among good bee-men that a district where white clover grows plentifully is the first consideration in seeking for a suitable location.—EDS.]

("*Thick versus Thin Combs*," *continued from page* 24.)

My experience with the thick combs has been similar to his with thin ones, for I have often had to give them a second turn in the extractor, and even then could not get the honey well out through it being so dense in consistency; the extractor was a geared one, too. Some of this honey was good enough to take first prize several seasons at one of the strongest county shows in the kingdom, and two firsts and a second at the only "Royal" show I ever exhibited at. During the coming season (may it be as good as the past one was bad!) some readers of the JOURNAL will no doubt be able to report on this subject, which is well worth considering. — NONDESCRIPT, Lancashire. January 13.

AMONG THE BEE-HIVES.

SECURING STRAIGHT COMBS.

[6972.] Your Editorial footnote to my letter on the above subject (6956, page 7), I think, calls for some further explanation on my part. Judging from my former experiences in writing articles for insertion in the B.B.J., I am led to think that I not seldom fail to make myself understood, and thereby convey wrong impressions. Apparently in writing on the above subject I have erred in the same direction.

The securing of straight combs must be a very simple matter after all, when—as you put it—"the merest tyro possessed of intelligence is capable of doing it after reading the directions given in the 'Guide Book.'" On reading this it began to dawn upon me that I had made a mistake. Securing straight combs is easy enough, but it is quite another thing from securing combs of uniform thickness, and although I used the former definition, I really meant the latter, but failed to convey that impression.

I have not yet got a copy of the new edition of "Guide Book," so that the new ideas, if any, promulgated therein are not known to me, and consequently should not count in this discussion. Quite recently I had a talk over this matter with your correspondent Mr. J. M. Ellis. He stated that in all his reading of bee-books he had not seen any direct reference made to the point in question except what appeared in "Cappings of Comb," written by Mr. Crawshaw, and to which I have already referred. Having carefully gone over the earlier edition of "Guide Book" in my possession, I failed to find any instructions as to securing combs of uniform thickness under conditions indicated. In every case where blanks have been made in a hive they are to be filled with combs or foundation, no other stipulation being given. On page 22 we find the following:—"If the bee-keeper has frames of empty combs to spare, a few of them may be advantageously given, putting one comb between two combs of foundation."

Well, I readily admit that this will secure straight combs. At the same time, I do not think one would require to possess even ordinary intelligence to see in this arrangement the cause, in its most aggravated form, of producing combs varying in thickness. Of this I am thoroughly convinced, and I maintain, as I already did, that to obviate this undesirable result the bees must be prevented from extending the comb until the foundation has been drawn out to the same size.

This is exactly what I now do. You state that I have not gone about my work in the easiest way. That may be so. All the same, my work has proved a success, and its application is simplicity itself. However, if anyone can show me an easier way to secure both straight combs and combs of uniform thickness I will not hesitate to adopt it.

With reference to the letter on page 18 (6960), I beg to congratulate your correspondent "A. H." on his good management, whereby he "steers clear of these faults in bee-keeping" with the ordinary hanging frames. Evidently he knows that these frames require some coaxing sometimes to make them hang true to each other and plumb. I would say he is the one out of every ten I referred to. At the same time, he must admit that a comb can be straight and not interchangeable.—A. REID, Balloan, Muir-of-Ord, Ross-shire.

[We hope our friend has by this time procured a copy of the new edition of the "Guide Book," and that he will find it useful. — EDS.]

DESTROYING QUEEN-WASPS.

[6973.] In connection with destroying queen-wasps, I have a quantity of *Centaurea montana* and its varieties planted in my nursery. Last spring I killed several dozens of queen-wasps. They come to this class of cornflower, especially the two varieties *carnea* (a flesh colour) and *rubra* (a reddish shade). Bee-keepers would do well to have a few plants about, look over them several times during bright sunshine, and with a stout pair of gloves kill the wasps. Bees are very fond of these flowers.—G. GIBSON, Bedale, January 4.

A GOOD REPORT FOR 1907.

[6974.] Seeing that so many readers of B.B.J. had such a poor season last year,

the following account of my doings will serve to show that it was possible to get a fairly good return, bad as the season of 1907 was. At the beginning of last year I had one stock and two weak nucleus colonies; the latter I did not expect would do any good, as they only covered about two frames each in April. The stock were Carniolans, from which I got 82 lb. of light-coloured honey. One of the nuclei were blacks, and these yielded me 38 lb. of honey. The other nucleus colony were hybrid Italians, and were preparing to swarm in June. In order to stop this, if possible, I took out four frames of brood, with queen, and filled up the parent hive with four sheets of foundation, which the bees drew out well, and I got 25 lb. of honey from them. In September the nucleus lot, made as above, covered ten frames, and gathered sufficient stores for the winter.

The above-named stocks all seem strong, and were flying freely on the 4th and 5th of this month. I have now four good stocks of bees, fifty-two drawn-out brood-frames of comb, thirty-two drawn-out shallow-frames, and twenty drawn-out sections, and all I had last April was twenty-three drawn-out brood-frames of comb. The above shows that, bad as the season has been, I have no cause to complain.

Wishing all the readers of the B.B.J. every success during the season which lies before us.—A. J. H., Chadwell Heath, Essex. January 9.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

The Index (*Vol. xxxv.*).—A perusal of this gives one the impression that it is the most interesting "article" which has appeared during 1907, and it is apparent that it contains even more careful work than its predecessors. In its improved form it is doubly interesting, and will repay perusal. So many valuable suggestions appear during the year, which become lost for want of reference, that I believe it would actually pay to mark, as they appear, articles of value, and afterwards to transfer such marks to the index; and one might do worse than sew all the indexes together into one volume as a hand-book to the bulkier JOURNALS. I have a feeling that here is a mine of wealth when reviewing the breadth of the field covered by the many contributors, but, with others, I cannot resist a renewed sense of loss in the long list of those great ones taken from our circle in 1907.

Pollen (page 6).—The argument as to adulteration is not quite clear here, unless it be taken to refer to a natural sample of honey containing an excess of pollen. It is evident that the adulterator would need to be an expert in fertilising dust, another corollary punishment, which should, as they say in "The Mikado," "fit the crime," would be deportation to Botany Bay.

Hibernation (page 6).—There is no real comparison possible between bear and bee, however much attached one may be to the other at times! Nor between the hibernation of hive-mother and queen-wasp. The latter has a truly marvellous rest-cure. She goes in autumn into more or less sheltered winter quarters, and it may be six months later she comes out no worse, and unattenuated, and capable of an enormous amount of single-handed work! Imagine one of our hardiest queens under such circumstances! Where in that little moribund body, without a heat-reserve, has there resided the spark of life during "the long and dreary winter"?

The mystery of Honey (page 6).—Would it not be interesting if Mr. Fisher would go further into this matter of the similarity in composition of honey and fats? Would he indicate the relations for us as simply as possible, showing where the combinations are similar, and how they break up? It is a little difficult of belief that honey minus pollen will give no residuum. There would seem to be here a field for investigation, and analysis of fæces.

Mild Cases (page 6).—Where does Mr. Bullamore find the suggestion to "lump all such together as a new disease"? His article reads as though I were responsible, but, if so, I should be glad if he will give chapter and verse, so that I may either withdraw or qualify a suggestion which seems opposed to common-sense.

Crossing or In-breeding (page 7).—Is it quite correct to say that cross-breeds become rapidly sterile, or is not the process of in-breeding really responsible? Be that as it may, it is more than doubtful if we can fully apply the reasoning to insects which appear to be able to stand a large amount of in-breeding, and with advantage to the race. I am sure that the future will see an increased demand for queens bred by specialists, and carefully selected for their useful qualities.

Straight Combs (page 7).—Will Mr. Reid kindly refer me to the note on the subject? So far as I remember, my intention was to suggest for this purpose a hanging dummy which was to be correctly spaced from end-bars by suitable strips, thus making the frames to all intents temporarily close-ended.

Naughty Temper (page 13).—Is it fair

to compare the temper of driven bees with that of old-established stocks? Mistaken or not, it has seemed to me that I have noticed a distinct change of temper for the worse in the same bees as between that shown during driving and that afterwards exhibited. It may be that the manipulations were respectively responsible, or, as I am wildly conjecturing, that the temper suffered by the autumn treatment.

Vitality of Eggs (page 14). Here is another interesting question! How long can an egg retain its vitality? Not over winter, I think, for I have found eggs withered away after that period. This is not an exact statement, but merely from casual observation. The process of withering would argue that the "shell" is unlike that of those larger ova which so soon lose their vitality and become "shop eggs."

Automatic Hiver (page 17). I may have mis-read Mr. Reid, but I gathered that he claims for his appliance that it would allow bees to transfer themselves out of itself into a prepared hive, and not into itself when swarming. If this should be the case, it does seem to me that there might be an opening for it with the busy man, who could just fix it in place and leave it without anxiety. Of course the bees would first require to be hived in the appliance. This would be the case where they were sent in it by rail, and upon arrival it would certainly simplify the hiving process for a beginner. It would be interesting to have details when these are available.

Queries and Replies.

[3650.] *Preserving Store-combs.*—May I remind you of the promised reprint in B.B.J. of an illustrated method of storing and fumigating store-combs which was to appear this winter?—H. O. Bowrey, Reading.

Reply.—The following is the reprint we referred to, and we print it in full:

"For the benefit of readers who have a good number of store-combs on hand, we reproduce sketches of the simple contrivance devised by ourselves many years ago, which in our hands served the useful purpose of storing combs for future use and keeping them clear of moths.

"The 'body-box' (Fig. 1) is 9 in. deep, 14½ in. from front to back, and 32 in. long, inside measure, so that, if needed, standard-size combs may be stored therein. Three-quarter-inch, or even ½-in., board is quite strong enough for the sides and floor of the body-box. The uprights at each corner are 33 in. long, 2 in. wide, and ½ in. thick, nailed on to the outside of body-box. Four light rails—slaters' laths answer well for these—front and back form the runners on which the frames

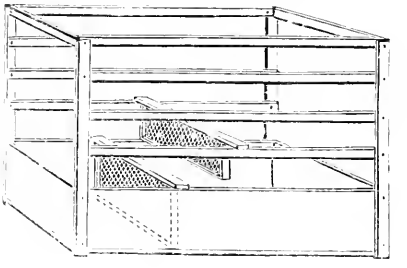

Fig. 1.

hang: they are nailed on the inside of uprights with their top edges 6 in. apart, the top rails only being continuous. This rack when complete is very light, and will comfortably hold 100 frames.

"The sketch (Fig. 2) represents the frame of cover, and is made of very light laths, the uprights being 34 in. long, and the internal dimensions of just sufficient length and width to slip easily over the 'rack' when the latter is full of frames of comb. When nailed up, this frame has a covering of several thicknesses of strong paper pasted together, and the whole is then complete. The cover fits down over all quite close to the ground, and we find that no moths or spiders, &c., ever attempt to enter at the bottom edges. A dozen balls of naphthaline placed in the

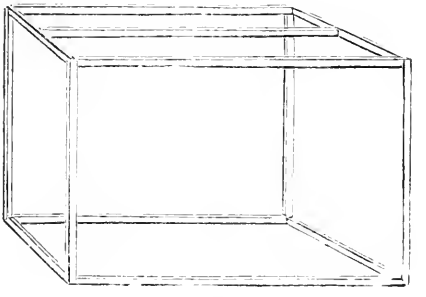

Fig. 2.

body-box, and the fumes will permeate the whole of the combs and stop mischief. For fumigation of combs with sulphur, space is allowed in body-box for holding the burning brimstone in an old tin lid, and when a hot coal is put in, the cover is placed over the whole, and keeps in the fumes."

[3651.] *Outer-cases for Hives.*—May I appeal for your help once again? I am making some "W. B. C." hives to original plan; but this severe weather prompts me to ask if I ought to make the outer-cases larger than the measurements given, in order to allow more packing as a further protection to the bees. I ask this because of being obliged to keep my bees in a very exposed and bleak position. Or do you think outer-cases of the ordinary size will answer equally well in my case? Thanking you in advance for reply, I sign—F. H., Birmingham, January 11.

Reply. If the space between the outer-cases and brood-chambers is filled in with old newspapers or any similar material—and plenty of warm coverings weighted down on top, there need be no fear on the point mentioned, without any increase in size of outer-cases, notwithstanding the exceptionally severe weather, if the stocks are not weak in bees.

THERAPEUTIC VALUE OF HONEY.

According to Dr. Pol Demade, who writes on this subject in *La Réforme Alimentaire* for January, honey occupies, or should, at least, occupy, an honourable place in therapeutics. Since up to the present date this right has not been generally accorded to it, the Doctor draws the attention of his confrères to certain experiences of his own, and also gives his reasons for the conclusions to which he has been led. He relates that the Lady Superior of a certain convent asked his advice about a tiny, emaciated baby. The child, which lay in its mother's arms, was nine months old, and gave one the feeling that it had but to close its little eyes for death to assert itself. The infant was suffering from diarrhœa, which had refused to yield to all remedies tried; the poor little creature was emaciated to an extreme degree, with black rings under the eyes, and the lower stomach fearfully large. The poor sufferer had no appetite whatever, but was in its place plagued with almost incessant vomiting and diarrhœa. This sickness, it appears, the French and Flemings call "old man." "What," says Dr. Demade, "could a medical man hope to do with such a wretched specimen, which any breath might send into Paradise? And yet there stood the mother pressing this remnant of life to her heart, her ninth child, which she told me she loved better than all the rest. I ordered her to feed the infant on honey and water, nothing else absolutely, for eight days, and, turning to the Lady Superior, I added that if the child were still living at the end of that time, to give goat's milk and water in the proportion of 1 to 2 parts respectively. I dismissed the case from my mind, since I did not hope for anything better than death as a release. What my astonishment was when at the end of three months I was shown a healthy-looking, well-nourished baby, with an excellent appetite and regular habits, and its stomach reduced to normal proportions, may be easily guessed." Here was my little wretched creature nothing less than metamorphosed by means of the honey. And I learnt that the mother had used my remedy to other children who suffered from stomach disorder with equally good results. I profited by her experiments, and I have since found the use of honey in any disease of the digestive organs a most valuable agent." The Doctor adds that he has tried honey as a remedy for that most obstinate of all diarrhœas which follows an advanced stage of pulmonary consumption, and even with young animals, and has in every case been rewarded by seeing the diarrhœa stop and a desire for nutrition take its place. The list of chemical compounds used to clear the intestinal canal, with more or less good results, some of which work other mischief, is a long one; honey, which is at once cleansing and nutritious, ought to take their place. And it may be that this is only one of the therapeutic uses out of many to which it might with advantage be put. Dr. Pol Demade argues that it should be easy for any practitioner with common-sense to recognise the reasons for this high value possessed by honey. It is, in the first place, a most extraordinary natural product. It is a sugar, but not of the ordinary kind. It is antiseptic, almost free from fermentation, and withal capable of almost instant assimilation in the organism with next to no exertion on the part of the digestive agents. Ordinary sugar is saccharine, whereas honey is a glycose. The former ferments readily, and has to be turned into glycose by the action of the saliva or some of the other digestive juices before it can be assimilated. In the case of a healthy stomach saccharine can be dealt with at no great expense to the system; but when the digestive organs have been weakened by disease, and the whole nervous system is extra-sensitive, sugar should be withheld and honey given. *Vegetarian Messenger.*

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

*** A correspondent, writing under the *nom de plume* "Gloucester Citizen," asks us to enlighten him with regard to a couple of Press cuttings which he encloses. The first cutting is from the *Law Journal*, and refers to the cases of Sparenborg *v.* Barnes (briefly reported in B.B.J. of September 26 last year, page 388), and of Quantrill *v.* Spragge, which was one of property in bees. "Both cases bristle with points, the latter especially. A bee-keeper's swarm flies into a neighbour's garden and settles on an apple tree. First question: Has the bee-keeper still the property in the swarm, or has it become his neighbour's and annexed to the ownership of the tree? Answer: The swarm is still the property of the bee-keeper, but he cannot go and recover it, if the neighbour objects, without committing a trespass. And this is what the neighbour in Quantrill *v.* Spragge did. He not only objected to the bee-keeper coming after his property, but he shook down the swarm from the apple tree, with the result that the bees "soared to the empyrean' and were lost. Now, in this he was wrong. The shaking down of the swarm was not only an unneighbourly act, but tortious in law. It was analogous to the case where a man drives trespassing cattle on his land to a great distance, or hunts them off with a fierce dog, in which cases he is liable for the injury, if any, done to the property in the cattle. Here, then, was a 'contest of demerits,' trespass on one side, tort on the other, a conflict best met, the learned judge thought, by making each party pay his own costs. In the other case—of nuisance the bee-keeper had ten hives with half a million bees at work, and he might fairly congratulate himself on the law-abiding instincts of his swarms: for they had only stung five persons in two years. It seems a very moderate allowance. Still, it was too much for the stung plaintiff, who was not satisfied with a boarding which the bee-keeper had providently set up, but claimed an interim injunction to restrain the keeping of the bees altogether, so near his property."

The third case, given in the second cutting, differs somewhat in character from the others. Broadly speaking, we may say the law of ownership in swarms is (according to Blackstone) that if a swarm is seen to issue from a hive and not lost sight of by the owner, or someone acting on his behalf, the bees can be followed and claimed if they settle on the premises or property of another person. There was evidently some failure to fulfil these conditions in the third case; hence the judge gave a verdict for defendant, while ordering the latter to pay his own costs on the point of equity.

G. G. (Yorks.). *Dead Bees Found at Hive-entrance.*—1. After losing all your bees last spring, no wonder you feel nervous just now. We may say, however, that a couple of dead bees at hive doorway need cause no alarm whatever at this season. 2. The amount of stores stated will be ample for wintering the bees on. 3. Bees sent are the common native variety. 4. The few grains of *débris* sent are merely particles of wax.

A. W. F. (Flixton).—*Candy-making.*—Your candy is very good indeed for a first attempt. If a little softer it would be perfect. Thanks for your appreciation of B.B.J.

H. B. (Witney).—*Unreliable Advertisers.*—Much obliged for the information sent. We shall take steps to prevent a recurrence of the just complaint you make.

E. G. C. (Amersham).—*Insect Nomenclature.*—The insect sent so much resembles a drone-bee as to be commonly known as the "drone-fly." It does not belong to the genus apis at all; but, although simply a fly, it hovers about flowers much as a bee does.

F. B. P. (Herne Bay).—*Selecting Hives.*—We cannot recommend one advertiser before another when so many of the leading appliance-makers turn out excellent hives of various types. If convenient, it would be a useful experience for you to call on the nearest leading maker and inspect the hives in course of construction. Or you could consult reports of leading shows in order to see what hives are preferred by experienced judges, and which you prefer after inspection.

K. C. (Frant, Sussex).—There is no B.K.A. in Sussex at the present time. Your best course will be to join the Surrey B.K.A., of which Mr. F. B. White, Marden House, Redhill, is hon. secretary and treasurer.

Robin Hood (Lancs.).—*Improvement in Supers and Frames.*—The box of frames reached us safely. We should like to know what special advantages are claimed for it over those in general use.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

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A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR.

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

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THE

British Bee Journal

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

Edited by T. W. COWAN, F.L.S., &c., and W. BROUGHTON CARR.

OFFICE: 8, Henrietta-street, Covent Garden, London, W.C.

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Editorial, Notices, &c.

YELLOW JOURNALISM.

We have taken the unusual course of dignifying with public notice an editorial from a paper called the *Irish Homestead* which we reprint *verbatim et literatim*. As a specimen of abusive yellow journalism it cannot be excelled, and we give it that publicity which it lacks in its own little circle of influence. One cannot help pitying the people who are regaled with such *pabulum*. We congratulate the *Irish Bee Journal* on having found so able a champion to blow its trumpet, and also on its "very extensive circulation in England" (?). Seeing that the B.B.J. has maintained its dignity and independence as a high-class journal for thirty-five years, its position is too impregnable for it to regard any paper as a rival, knowing full well from experience that when bee-keepers become interested in the craft they want something more than can be obtained from a penny monthly.

During the period named bee-papers have sprung up like mushrooms, some of them ostensibly as rivals. Where are they now? Self-laudation and venting of spleen do not satisfy bee-keepers for long, and it is a bad sign when resorted to.

On page 471 of B.B.J. for November 28, 1907, we reported an extract from the proceedings of the eleventh annual meeting of the Council of the Irish Department of Agriculture in Dublin, at which Mr. T. W. Russell, Vice-President of the Department, stated that the Irish Agricultural Organisation Society was receiving a subsidy of £3,700 a year. Also that an officer of the Department who devoted his time largely to looking after the expenditure of this subsidy was paid £1,000 a year, which the Vice-President rightly called a "most unbusinesslike arrangement." We pointed out what most interested bee-keepers, viz., the connection of this society with the Irish Bee-keepers' Federation, and asked how much the latter had "obtained, if anything, from the above subsidy." The fact that public money is being used for such a subsidy, as the Vice-President said, "to enable the organisation to compete with tax-payers," gives us a perfect right to know how it is spent, and also the right to inform our Irish readers who are unable otherwise to get the information. We asked a straightforward question, and below is shown how the editor of the *Irish Homestead*, a paper published by, and accredited as the official organ of, the Irish Agricultural Organisation Society, answers it. He is evidently proud of his "Billingsgate," having gone to the trouble of forwarding a marked copy of the paper in which his article appears in order to draw our attention to it, rightly judging that otherwise we would not be likely to see it.

BEE POISON.

"It is astounding the little, mean, petty lies which are spread about the I.A.O.S. in obscure journals by spiteful people, earthworms burrowing in the darkness of little-known papers. We find some Irish correspondent of a small sheet called the BRITISH BEE JOURNAL has induced the editor to write an article on the I.A.O.S. What British bees have to do with Irish co-operation we leave it to the editor to declare. Anyhow, its burden is that there was an Irish Bee-keepers' Federation. This, as all Irish bee-keepers know, was absorbed in Irish Producers, Limited, as it was found the work of the two bodies could be best carried on together. The editor of this little bee-paper thus propounds his argument. The I.A.O.S. got a subsidy from the Department, a Bee-keepers' Federation was wound up, the Bee-keepers' Federation was the child of the I.A.O.S. 'How much of the subsidy went to the shareholders of the Bee-keepers' Federation?' Not one cent, you slimy little paper. There is not one single society organised by the I.A.O.S. ever received one penny of a subsidy either from the I.A.O.S. or the Department. The societies work on their own capital. We wish the BRITISH BEE JOURNAL would work on its own capital of ideas and facts, if it has any, and not insert sinister suggestions about the work of a world-famous organisation run by honourable men. We guess we know the whole cause of the spiteful leader is that the *Irish Bee Journal*, by far in a way the most interesting bee-paper published, is getting a very extensive circulation in England, and it advocates co-operation among bee-keepers, and the BRITISH BEE JOURNAL does not look upon its Celtic rival's appearance in its own field with any pleasure, and abhors its policy. We hope the Irish bee-paper will go ahead and overspread the Empire. It is the only bee-paper worth reading. There is more sting and poison than honey in its English rival."

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held at 105, Jermyn Street, S.W., on Thursday, the 16th inst., Mr. W. F. Reid (Vice-Chairman) presiding. There were also present Miss Gayton, Colonel Walker, Messrs. F. W. Bernau, T. Bevan, W. Broughton Carr, J. B. Lamb, E. D. Till, and the Secretary.

Letters explaining enforced absence were read from Miss Hall, Mr. T. W. Cowan, Dr. Elliott, Mr. R. T. Andrews, Mr. A. G. Pugh, and Mr. E. Walker.

The minutes of the previous meeting were read and confirmed.

Two new members were elected, viz., Mr. W. H. Brown, Peverell, Longley Road, Wealdstone; and Mr. C. H. Curling, 36, Bolton Road, Grove Park, Chiswick.

Mr. Bevan presented the Finance Committee's report to date, which was duly approved.

Correspondence with the Northumberland and Durham B.K.A. was read to the meeting with regard to prospective arrangements for the "Royal" Show at Newcastle in June next, intimating willingness to co-operate cordially with the B.B.K.A. in making the fixture a success, and offering a contribution towards the prize and expenses fund.

The conditions of a proposed new policy of insurance for the period from March 25, 1908, to March 25, 1909, were considered, and it was decided to make the proposed conditions known to bee-keepers generally by publishing them in the columns of the B.B.J. by kind permission of the Editors. They will be found below.

It was resolved that future examinations for first-class certificates be conducted in two distinct sections upon different dates, viz., the first section to consist of the paper-work, in various centres to suit the convenience of intending candidates, as in the second-class examinations; and secondly and finally, the lecturing test before the Council by those candidates only who succeed in passing in the first section.

The next meeting of the Council will be held on Thursday, February 20.

BRITISH BEE-KEEPERS' INSURANCE SCHEME.

Proposed conditions of the Open Policy to be issued to the British Bee-keepers' Association by Messrs. Heath and others, underwriters at Lloyd's, for the period from 25th March, 1908, to 25th March, 1909.

The Policy is to indemnify the owners of bee-hives insuring under the British Bee-keepers' Association Scheme against their liability to third parties for damages to persons or property occasioned by bees from the insured apiary outside such apiary, such claim in any one year not to exceed the sum of £30 in the aggregate, and not to include any claim for injury to the assured, or persons or live stock under his control. The Policy covers the period from 25th March, 1908, to 25th March, 1909, only.

The Policy will not come into force with regard to any intending insurer until his or her premium has been received and accepted by the B.B.K.A.

If the assured shall increase the number of hives kept beyond the number covered by the premium paid, the assured will only recover such proportion of the amount of any claim as the number of hives paid for bears to the number of hives in the apiary at the date of the injury being sustained.

It is a condition precedent to any claim that in the event of injury caused by bees from the insured apiary, notice thereof shall have been given by the assured in writing to the B.B.K.A., at its office, 12, Hanover Square, London, within seven days from the date of such injury, together with full particulars of the nature of such injury, and its causes, and, further, that no liability to third parties shall be admitted by the assured without the written consent of the B.B.K.A.

Definition.—By "apiary" is understood that portion of ground set apart for the accommodation of the bee-hives.

Premium: One penny per hive on the maximum number of hives kept; minimum premium, 9d. Non-members of British Bee-keepers' Association, or its affiliated associations, to pay a registration fee of 6d. in addition. Premiums payable by members of the B.B.K. Association, or by non-members of any association affiliated thereto, must be sent to the Secretary, B.B.K.A., 12, Hanover Square, London, W.

Premiums payable by members of affiliated county associations who are not members of the B.B.K.A. must be sent to the secretary of such affiliated association.

If you desire to effect an insurance, please fill up the form at the back, and forward it, with the necessary premium, as directed above.

It is requested that remittances be by postal order or cheque, in preference to stamps.

Copies of the above circular may be had on application to Mr. Edwin H. Young, Secretary, B.B.K.A., 12, Hanover Square, London, W.

STAFFORDSHIRE B.K.A.

ANNUAL MEETING.

The annual meeting of the Staffordshire Bee-keepers' Association was held in the Lecture Hall of the County Education Buildings, Stafford, on the 11th inst. Mr. A. H. Heath presided, and there was a fairly good attendance. The annual report, which was read by the Rev. G. C. Bruton, stated that the result of the past year's work was very gratifying, considering that the season was one hardly calculated to induce people to start bee-keeping. The finances showed that the credit balance of £11 2s. 1d. had been increased to £15 8s. 6d. An additional £2 had also been received from members. The Burton Show had proved satisfactory to the association, and the funds had benefited to the extent of £10 as the result of a grant by the Burton Committee. The work of encouraging bee-keepers in the small county shows by offering medals had been continued, and there had been considerable keenness in the competition. In conclusion, the Secretary said that in flavoured honey the association continued to hold its own in every part of the country, and members had been successful at the Royal Show at Lincoln, and also at the Dairy and Confectioners' Shows in London. Mr. Heath was re-elected president of the association, and the Rev. A. R. Alsop was elected vice-president, in place of the late Mr. Bagnall. —(*Communicated*).

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

AMONG THE BEES.

OUTSIDE OBSERVATION IN WINTER.

[6975.] First let me say this is the only legitimate form of observation in winter. From the time bees are packed into winter quarters they should be left undisturbed right on until the first mild days of spring call them forth to engage in active flights. Generally it may be said that bees are left to themselves and all but utterly forgotten by the common run of bee-keepers from October to March inclusive. Well found, I am not sure but that may be as good a system as any, and it is certainly more favourable to the bees' well-being than fussy interference during the period of repose.

This prohibition does not take objection to casual glances for a definite purpose in hives provided with celluloid or glass quilts, or sheets set in frames for special observations. These may prove of interest, and, carefully made, may supply useful data for future guidance. At times these occasional peeps—for they should be little more—prove very interesting and instructive. Great care should be taken that in opening and closing the hive there should be no jar or bumping, that the exposure is not continued too long, and that quilts are so arranged that there is no loss of internal heat.

Excitement may make itself manifest at the hive-entrance from various causes. Too long confinement may engender a desire to have a flight even during cold weather, and at times over-thick honey may require water to liquefy it if breeding is going on. These and some other causes are abnormal, and, if possible, the inciting cause should be done away with.

"Spotting" seen in front of the entrance or along the flight-board, if not excessive, is merely an indication that bees have been able during a spell of mild weather to have a much needed cleansing. No fears need be felt, as the indications are favourable rather than the reverse. Even although the fouling is considerable, as a rule there is no cause for anxiety. Long confinement, especially where there has been a variable temperature, makes this almost inevitable. Every hive and white object will at times show a speckled and spotted surface. The health of the bees and the comfort and sanitary well-being of the interior are thereby much improved. Every winter a large number of dead bees may be thrown out about the front flight-board and surrounding area, as in the course of Nature several hundreds die off, and are generally evicted by the prescient sister-bees, who have great faith in cleanliness and pay due regard to the laws of sanitation. Alarm is often felt by beginners when any unusual numbers of dead bees are seen about hives, but they should solace themselves with the thought that these dead bodies are better outside than inside. When the entrance is small it is generally advisable to aid the bees by enlarging it on a fine day, and by means of a bent wire assist them in ejecting their dead.

Débris of various kinds accumulates on

the floor-board, and bees show anxiety to get rid of it with the object of purifying and keeping sweet the air of the interior, but this is generally left over from the extreme of winter to be attended to when the milder days of spring call the bees forth in considerable numbers on foraging intent. Amongst this débris will be found a good quantity of comb-cappings. Whenever mild spells set in bees expand the cluster and follow the supply of stores. They rearrange these to meet future contingencies, and bring the life-supporting nectar within easy reach of the centre and all parts of the oval ball, into which on the return of cold they again arrange themselves. A large amount of cappings thrown out shows that a goodly number of bees inhabit that hive, and that they are prepared to stand a long siege from cold, being fortified by that which gives heat and life. Even an entire lack of cappings, however, does not certify otherwise, as they may already have stores well arranged.

It is believed that breeding sets in in almost all hives soon after the turn of the year, although at first only on a very limited scale—just one or two small round patches in the centre of the cluster on contiguous combs. Breeding implies that a demand arises for two things not always found in hives at this season of the year—viz., water and pollen. Bees often leave the hive at very unseasonable times for water, and if pollen is to be had anywhere it is certain they will find it. Excitement with much intercourse out of season from this or any cause is not good for the inhabitants, so I would not be a believer in too early breeding, or supply the bees with any incitement to start brood-rearing too soon. Winter is, as I have already stated, the season of repose for bees. The best and safest condition for them is a state of semi-hibernation in which peace and contentment prevail through the whole community.

Several enemies of bees disturb them occasionally in winter. Mice, where numerous, make persevering attempts to gain admittance. I have had quite recently plain evidence of this in one of my own hives. Contract the entrance by perforated zinc so that they are excluded. Birds prove destructive at times. Small clouds of sparrows and other birds are troublesome during snowstorms, causing a flutter and disturbance about the hives, calling out an inquiring bee, which quickly gets chilled or caught and eaten. Although these marauders may be content at times with the dead thrown out, I have incontrovertible proof that they also prey upon the living as well. The remedy here is patent, and easily applied. Shade during a storm hinders bees from coming out, encouraged by bright blinks of sunshine, when they frequently get chilled, sinking into the soft, powdery snow to rise no more—"one more unfortunate gone to her death." I have hopes that by and by the new system of "claustration" will be a great saving of bee-life in such circumstances.

If any necessary digging or other work is going on about hives do it gently; don't jar. A vibration or concussion seems to set the whole cluster a-buzz. If there is any difficulty in settling the vexed question "Do bees hear?" there is none in determining that they *feel*, and, moreover, that they are supersensitive to any shake or movement which jars their domicile.—D. M. M., Banff.

(*Correspondence continued on page* 36.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

Our friend Mr. Vallance is so well known to readers as to need no introduction from us, nor need we add anything to the following notes, written at our request. He says:—

"My love for bees and honey dates from about the year 1861, when my parents resided in Glen Afton, amid the scenes rendered famous by Burns's immortal lyric 'Afton Water.' There I first tasted the delicious honey of the mossy bee. Next, I have a dim recollection of evening in a shady wood, a hollow tree, and the lurid glare of a sulphurous fire!—my father and the gamekeeper were robbing a 'bees' nest' that had existed for some years in that tree. The amount of comb and honey obtained was something fabulous—at least I never seem to have such a pile of fragrant combs nowadays. The scene now shifts to another Ayrshire strath, 'Glenmuir's wild solitudes,' whither Cumnock bee-men often brought their hives—old-fashioned straw skeps—in autumn to the heather, and here I began to take an interest in bees and their habits, and often wondered why they worked so hard on some days and on others loafed inside or at the entrances. I concluded they needed to be 'waked up,' and, armed with a long stick, I used to creep through the cabbage and supply the needful 'poking.' It was always effectual; but I did it once too often, and—well, I left off waking the bees up afterwards.

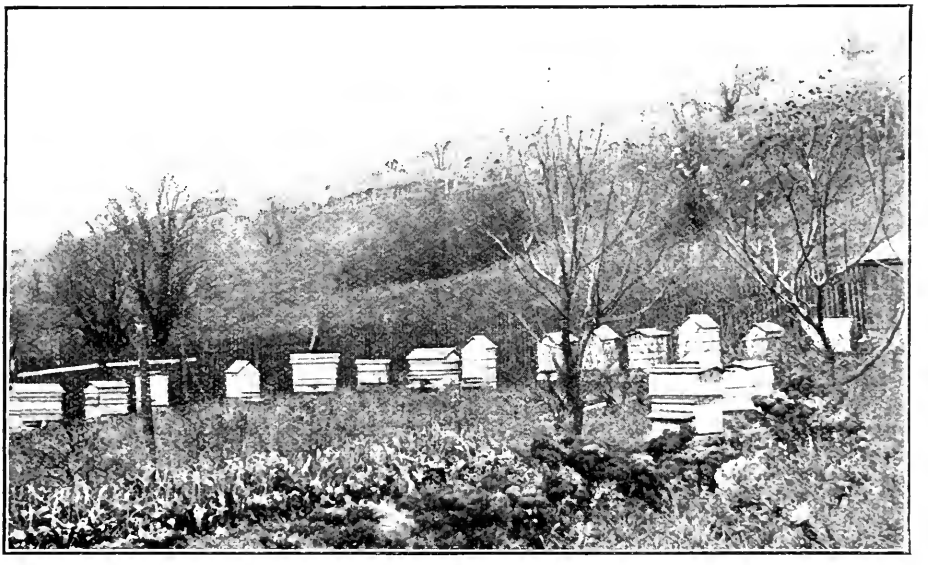
"In the year 1878 I became possessed of a hive of Ligurians in Clydesdale, and, as frame-hives were much talked about at the time, I got a description from a friend and made one, but when stocking it with a swarm I unfortunately omitted to cover the frame-tops with a quilt, and

some time afterwards found the bees comfortably ensconced under the roof, which they had filled with combs.

"Never having seen anyone handle bees, I naturally made some amusing blunders. After keeping bees for about two years, and just as I began to understand things, I had to remove the hives to my father's home; but I paid them periodical visits for something like ten or eleven years. This gave me an opportunity sometimes for seeing a swarm, at other times for removing the hives to the heather, and lastly for the annual 'take.' Three stocks were usually kept over the winter, and these received the bees driven from those 'put down.' I was never an advocate for the sulphur-pit, and would not adopt that cruel practice. I set the two stocks that were to be united close together, and, when the time came for operating, 'drummed' one of them. The other hive was inverted and about 3 in. of the lower edges of combs cut out. This made a cavity into which I threw the driven lot after sprinkling each with a little thin syrup. The 'sole' was then quickly put on, the hive being righted and set on its stand. In those days I had never any loss of stocks in winter. The only thing required was plenty of bees, and a little feeding after uniting, and again in spring, always gave good results. I once had 50 lb. of honey from a second swarm.

"About seventeen years ago I settled down in my present location, and, though the district is a poor one for honey, I resolved to try a hive or two. I brought hither two of the old hives about the year 1893 or 1894, and then made inquiries from bee-keepers in the neighbourhood about any bee-papers published, if there were such. In this way I got the *Record*, and later on—in 1896—the B.B.J. From these I received much valued help in the management of the movable-frame hive. I began with double-walled hives taking twelve frames hung parallel to entrance. A few years ago, however, I began to make all my hives on the 'W. B. C.' model, and prefer them to all others. I now make them so that a stock can be divided at a moment's notice should the bees swarm. My 'takes' of honey were very moderate until I began to feed in the spring and super about June 1, when the hawthorn sometimes yields abundantly in our district; and when this is followed by good weather with clover in bloom the results are eminently satisfactory. In 1905 I secured 100 lb. of extracted honey from one hive, and in the following year I had my highest 'take' of heather-honey.

"Some years ago I had some trouble with foul brood, but with the careful use of remedies it was stamped out effectually. I have devoted much thought in gauging the correct time and condition of the hive that will render brood-spreading a beneficial operation, and have succeeded where so many fail through want of care. I have also been



MR. D. A. VALLANCE'S APIARY, DUNASKIN, AYRSHIRE.

successful in preventing swarming during some years, but I do not like to stop it altogether, as I like to see a swarm now and then.

"As is known to many readers of the B.B.J., cleaning pollen-clogged combs is now a matter that gives me little labour and no annoyance. Combs defiled by dysentery are also easily cleaned. Queen-rearing with me has added its quota to the full measure of happiness derivable from bee-keeping. I often wonder at the trouble some have over their wax-rendering; with me it is reduced to a minimum, and that with the use of very few implements. Not only so, but in order to prove how little wax there is left in the refuse, I have repeatedly dried the latter and set a light to it; but it simply smouldered away through the absence of wax. Fearing to have trespassed too far on the patience of readers, I conclude by saying I honour the men who now and in the past have devoted ability and time to furthering the interests of apiculture, and sincerely hope we shall have a prosperous season and a happy time among the bees."

(*Correspondence continued from page* 34.)

SECURING STRAIGHT COMBS.

[6976.] Referring to the difficulty mentioned by your correspondent Mr. A. Reid (6972, page 26) in getting foundation drawn-out evenly, I have found the following plan most satisfactory:—Remove the "W. B. C." ends from the new frame, and close up the two adjoining ones so that they nearly touch the top-bar of new one; then, when it is found that the bees have started on the foundation—say in a day or two—return to the old spacing. Unless honey is coming in very freely at the time, I always use a feeder and some thin syrup.

A frame-feeder is the best for this purpose, and anyone can easily make one as follows:—Get a wide frame (either standard or shallow), and glue over one side a thin board, paint the joints, and then fix on the other side a piece of board, leaving a $\frac{1}{2}$-in. space below the top-bar for the bees to enter by. A piece of wood $\frac{1}{2}$ in. shorter and $\frac{1}{4}$ in. narrower than the inside of frame is used as a float.

It is also very useful when feeding-up driven bees late in the season, as I find they will take syrup from a feeder of this kind placed next to the outside frame of the cluster when they will not go up and fetch it from the ordinary overhead rapid-feeders.

While on the subject of "feeders," I would warn brother bee-keepers that they will be required more than usual this spring, as stocks are very short of food round this part, due, I think, in a great measure to breeding so late last autumn. Wishing them all a prosperous season, and the same to our worthy Editors, I send name and sign—COTSWOLD, Chipping Norton, January 17.

REPACKING EXHIBITS.

[6977.] I notice in B.B.J. of January 9 (page 14) you insert my letter, and in a footnote ask for further information with regard to the particular show referred to. I now write to say it was the year's "Royal" Show, held under the auspices of the British Bee-keepers' Association. The exhibit was in the class for heather-honey in jars, and was packed and sent from here in a wooden box, with corrugated paper round each jar and fine shavings packed between. It reached the show undoubtedly in the pink of condition, and was awarded a "very high commend." It was returned in the same box, but hardly an attempt had been made to pack it securely. The shavings were mostly in the bottom of the box, at least what was left of them, but it would appear as if there had been an entire want of method in opening the package and putting each part of packing back to where it came from for use again; at all events, it was gone. The glass jars were found upside down, with their screw-caps to the bottom, and a large label on the lid, "This side up"! There had only been the most meagre attempt to pack between the jars, and altogether the first principle of safe packing glass—viz., a firm packing with a little spring—was entirely ignored. Can you wonder that after experiences like this we on this side of the Border are inclined to laugh at "expert" ability in this direction?—BEE-MAN, Scotland, January 15.

[The information conveyed above does not help us at all in the way desired in our footnote on page 16; indeed, it only adds to the difficulty of fixing responsibility. You say it was "the year's 'Royal' Show, held under the auspices of the British Bee-keepers' Association." We have referred to the prize list of the "Royal" Show held at Lincoln last year, and find that no award given in the class for heather-honey went to an exhibit from Scotland. We also looked up the awards at the "Royal" Show at Derby in 1906, with the same result. If you will be good enough to send definite information with regard to the date and place of the "Royal" Show whereat your friend's honey was staged, we will gladly pursue the matter further. Meanwhile, the proof of bad packing must remain with yourself.—EDS.]

MINIATURE SECTIONS.

[6978.] Reports from experimenters in different parts of the country show that, owing to the unfavourable weather last summer, these miniature sections did not get a proper trial.

A number of bee-keepers interested in them (including myself) were not able to get the sections on to their hives at all; whilst some others got them on only to take them off again honeyless, but with foundation firmly fixed in, ready for the following year. A very few were more fortunate, and had fair success considering the weather conditions; but we shall have to wait for the coming summer—which we all hope will be a good one for bee-keepers—ere anything definite can be said as to the practical use of miniature sections.—R. N. ROBERTSON, Tayport, N.B., January 18.

BEE-NOTES FROM ROSS-SHIRE.

THE LAND WE LIVE IN.

[6979.] As time rolls by, and much is written and said about the beauties of our Highland homeland, yearly the tide of North-bound tourist traffic swells higher and higher. By rail and boat and motor-car they come to breathe a new atmosphere, to live a new life among Arcadian surroundings.

The other day we participated in a most impressive ceremony—the opening of the Seaforth Consumptive Sanatorium, an establishment that will bring new hope to sufferers from the dreaded "white plague." Situated on a sunny slope a half-mile further down the valley, it stands a lasting monument to the generous donors, who recognise that great wealth is given as a trust to be expended not in idle or vicious pleasures but for the benefit of suffering humanity. Apart from the initial cost of the edifice, the sum of £100,000 has been set aside as a perpetual endowment, making the institution absolutely free for all time, giving hapless consumptives the full benefits of the open-air treatment without money and without price.

Automatic Hiving.—Mr. Crawshaw (page 28) has grasped the point. The first mention of this proposed appliance could scarcely have been clearly expressed when it is only now that the idea begins to dawn upon our intellects. In brief, Mr. Reid merely asks whether there is room for an improved swarm-carrying box, with collapsible interior, which at the journey's end does the hiving itself, thus saving the busy bee-man much valuable time.

The subject of securing even brood-combs is a side-issue. It is true that insertion of new frames during the honey-flow makes for confusion, a medley of "thick" and "thin"; but who wants to extend the brood-nest at this time? Excellent combs are made by swarms or by driven bees hived on foundation alone, and the "Alexander" method provides a ready application of the same principle to established stocks. Of course bulging combs can always be put right in the extractor.

Tall Sections.—I note that the Rev. Mr. Lamb recommends a size 5 by $4\frac{1}{2}$ as likely to give the best results. Danzenbaker in America sticks to the 5 by 4, while here in North Britain we know but one variety of the new section, and its dimensions are 5 by $4\frac{1}{4}$—only a $\frac{1}{4}$-in. difference between the width of each, but, slight as it is, it is quite sufficient to prevent interchangeability of supers, separators, &c. Such discord is ruinous, and, unless remedied, will prove fatal to the tall section, in which case a fitting epitaph would be "Killed by its friends."—J. M. ELLIS, Ussie Valley, January 18.

LANCASTER AGRICULTURAL SHOW.

[6980.] Seeing the enclosed advertisement in the *Lancaster Observer*, I was very sorry not to see the same in the BEE JOURNAL, and hope you will insert same in next issue. Instead of our friend Mr. Lloyd being a working man, he should be a millionaire; then bee-keeping would "hum" in Lancashire.—L. T., Lancaster, January 18.

"A MEETING OF BEE-KEEPERS will be held in the Cromwell Hall, Lancaster, on Saturday, February 1st, 1908, to consider the advisability and means of revising and improving the Schedule of the Honey Section in connection with the Lancaster Agricultural Show. All interested in the matter are earnestly requested to be present. Chair to be taken at 2.30 p.m.

"WILLIAM LLOYD,
"Steward and Collector."

PACKING HONEY-EXHIBITS.

[6981.] Your correspondent "Bee-man, Scotland" (6958, page 14) deserves the thanks of every exhibitor for opening up the question of packing and returning honey-exhibits. The way in which some exhibits are repacked at even the London shows is a crying evil and we need not wonder that the number of entries falls far short of what one would expect, taking into account the honour and prize-money gained by the successful exhibitor.

I show a great deal myself, and consider that I am more than fairly success-

ful, but you will never find me sending stuff to a show unless I can accompany it, or have it in the charge of someone who knows about packing honey.

Last autumn I saw an exhibit of run honey just as it was returned from a leading London show. Had my friend taken my advice he would have claimed damages from the show management, and I have not the slightest doubt he would have come off more than second best in any law court.

The packing was a perfect disgrace. The glass jars had been tumbled into the travelling-crate in any fashion, some upside down! The condition this exhibit of good honey was in when I saw it simply beggars description. Little wonder, then, that bee-men from a distance do not forward exhibits to the big shows.

As secretary of a show held in Scotland I am responsible for the packing of exhibits at one of the largest shows this side the Border, and I make it a point to start early and take time to pack thoroughly all exhibits from a distance before a single local exhibit is removed from the show-bench. Why cannot this be done at all other shows?

I feel certain we should hear of larger entries at the big shows if competitors could be assured that their exhibits would be carefully handled. I send name for reference and sign—QUEEN OF THE SOUTH, Scotland, January 17.

SWARM-CATCHERS.

[6982.] Referring to the letter of your correspondent "G. C., Oughtybridge" (6969, page 24), I consider that a really satisfactory swarm-catcher would be a great boon to many bee-keepers. Watching for swarms and then hiving them may be all very well for those whose apiary is close at hand, and who have plenty of time to devote to it; but to those, like myself, who keep their bees a short distance away, and are not able always to be on the spot, an appliance that answered the purpose well would at times be most convenient and save many losses. In 1906, but for a stroke of luck, I should have lost two fine swarms through their issuing in my absence and clustering some little distance away.—OSBORNE HILL, Worcester, January 18.

[It may be well to remind our correspondent that devices for preventing the loss of swarms, of various shapes and forms, have been illustrated and described in our pages during the past ten or fifteen years. One of the most effectual of these is the "Brice" swarm-catcher, illustrated in the "Guide Book," specially designed to meet cases like your own, and answers the purpose well.—EDS.]

HOW TO SECURE STRAIGHT COMBS

[6983.] With reference to the letter of Mr. Reid (6956, page 7) in B.B.J. of January 2 on "Securing Straight Combs," I was much interested by this article, having already met with the same difficulty, although only having had one season's experience in bee-keeping. Unless one has a perpetual stock of drawn-out combs on hand, it must be absolutely necessary at times to place a sheet of foundation between two combs. If this is placed in the centre of the brood-nest the adjacent combs will, I should think, usually be more or less sealed over, and as a rule no harm will result; but this cannot always be so. When feeding up driven bees and spreading the brood-nest, sheets of foundation have to be added continuously, and these are not always drawn-out straight. It is therefore evident that some such device as that tried by Mr. Reid makes a certainty of what would otherwise be at least only a probability.

I have looked up all the references and illustrations referred to in the new edition of the "Guide Book," and I do not see that these will much avail a tyro such as myself. Excellent directions are given for fixing foundation, &c., but as regards the insertion of foundation in spreading brood, except when starting a swarm or a driven lot, there does not appear to be anything. Then on pages 25 and 151, where the placing of bees on foundation is referred to, we have on page 151, quoted in the footnote to Mr. Reid's letter: "On no account must built-out combs be alternated with sheets of foundation, or the result will be irregular combs"; and then on page 25 appears this paragraph: "If the bee-keeper has frames of empty combs to spare, a few of them may be advantageously given, putting one comb between two frames of foundation." I send name and sign—BEWILDERED TYRO, Bowdon.

Queries and Replies.

[3652.] *Bee-management and Hive-making.*—May I ask your advice on above? I have two strong, healthy stocks of bees, one in a frame-hive and the other in a skep. I am anxious to increase the number of my stocks to five this year, if I can, by transferring the bees from the skep, and still retain the skep as a stock-hive. In view of this I wish to know:—1. Must I let the stock in skep swarm naturally first, and then place skep above the frames, or should it be done before swarming; and how long

must I allow the skep to remain above the frames before removing it? 2. What is foul brood? How can I detect it? 3. What part of the hive is naphthaline placed in to prevent the disease? 4. What size of hive do you consider the best? I am making some the body-boxes of which are 18 in. by 18 in., inside measurement; what size ought the brood-nest to be for these hives? I have only just made a start in the craft, and am anxious to increase my stock to about a dozen hives without unnecessary delay. Therefore a few hints on the above will greatly oblige. Name sent for reference.—PERPLEXED, Wombwell, near Barnsley, January 17.

REPLY.—We print the whole of your queries in full for the purpose of showing that such elementary knowledge as you now possess with regard to bee-keeping has apparently been gathered from the B.B.J. without having read any text-book whatever on the subject. This being so, the best advice we can offer is to invest in a copy of the "Guide Book," costing 1s. 6d. (postage 2½d.). You will find therein full instructions (with illustrations from photos) on all the questions enumerated above, together with so much that is needful that it would only be a waste of time and money for you to depend on the brief notes we could give in our "Query and Reply" column for the help which cannot be dispensed with. Briefly put, and as a reply to all the above queries, to start bee-keeping without a reliable text-book is like "groping in the dark" for knowledge.

[3653.] *Suspected Dysentery among Bees.*—Will you be kind enough to let me know through the B.B.J. if I need suspect dysentery in any of my hives, as on the alighting-boards of three or four of them are blotches and splashes of dark brownish-coloured matter, whilst there are no such markings about my other hives? I might mention that I had to feed the bees rather late last autumn, which makes me fear that the bees would not have time to seal over in the cells before cold weather set in. They only had about a quart of syrup to each hive, and in December I gave them each a cake of flour-candy, made according to recipe in "Guide Book," sample of which I enclose for inspection. This is my first attempt at candy-making, and I will be glad to have your experienced opinion as to the quality of same.—E. A. R. W., Norfolk, January 18.

REPLY.—The "markings" referred to—unless very plentiful—need cause no alarm. Bees in good health naturally take advantage of the first fine day in winter to get a cleansing-flight. The same thing occurs in the early spring, when hives become plentifully spotted where many are kept. On the other hand, if the "three or four" hives specially noticed are seen to be very badly "specked," while others are free from it, the combs and interior of the hive should be examined on the first fine day that bees are on the wing, and it will soon be seen if "dysentery" is causing the trouble, for the combs and hive-walls will also be "specked."

[3654.] *Dead Queen Cast Out in January.*—I am taking the liberty of sending herewith for your inspection a dead queen, which I picked up on Saturday afternoon outside what was my strongest hive when closed down. She was lying with half a dozen or so dead workers; the floorboard had been cleared of a few dead bees a week before. There were large solid breadths of brood, and the heaviest lot of sealed food I have ever had—practically the hive crammed full.

This stock was originally had from Mr. Sladen in 1903, and always did well. I did not (for that reason) re-queen, but I fancy the bees did it three seasons back. I know we are advised to re-queen after second season, but in view of the fact that condition, and not years, makes age or youth, I had let this lot alone last autumn.

Would you kindly say:—1. Whether this queen is likely to have died simply from being worn out or what; also what is the best course to take, seeing one cannot overhaul just now? 2. If killed, what should have been the probable reason? Thanking you in advance, and wishing all a prosperous 1908.—HONEYMAN, Kent, January 20.

REPLY.—1. The appearance of dead queen sent indicates "balling" rather than old age, and this points to it being a case of "superseding" by the bees themselves. We should take the first chance of a fine day, when bees are well on the wing, to examine the combs for signs of queen-cells, and thus clear up the uncertainty. 2. We cannot agree with your view that the bees re-queened themselves three seasons ago, if the stock was one of the yellow races when received from Mr. Sladen. We should say the bees had been re-queened twice or thrice to have lost—in the five years since first got—nearly all signs of hybridising, as is the case with dead queen received.

Among the too frequent causes of queens being "balled" and cast out in the quiet season is untimely manipulation of combs by bee-keepers who are unaware of the risks incurred through disturbing hives at such times. In your case, the fact of the floorboard having been cleared of dead bees a week before the dead queen was found looks suspicious, to say the least.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

*** ERRATUM.—In our Brazilian review on page 11 there occurs a printer's error, as the $ sign should have been placed at the end of the figures, which signifies *milreis* paper, instead of dollars. The *milreis* paper is worth 1s. 3d. in our money; consequently the value of the imports amounts to £7,806,197 sterling.

B. J. WRIGHT (Ellesmere).—"*Bee Journal*" *Limericks.*—It is only fair to Mr. Charter to say that he sent the name of winner of the Limerick in question to appear in the B.B.J. of January 9, but it did not reach the office till Wednesday, the 8th, when the paper was already in press. The announcement had, therefore, to be deferred till January 16, when the winner's name duly appeared.

We agree with our correspondent (and several other readers who have written in similar terms) regarding the desirability of publishing the "winning line," as is done with Limerick competitions in other papers. This is not done in the B.B.J. of January 16, when Miss Kimpton won. We also agree with Mr. Wright that "the line with which he had hoped to win" is a good one, and, in order that readers may judge for themselves on the point, we print below Mr. Charter's verse, with the line added:—

"If you want to gather honey by the ton;
If you want them both for profit and for fun;
For the capping of the comb,
And working well at home,
Leave nothing that the 'Guide Book' says undone."

BEGINNER (Dumfries).—*How Frames Should Hang in Hives.*—The consensus of opinion is in favour of frames hanging at right-angles to hive-entrance. But, while there are valid reasons for this system, those who prefer to use hives of the "combination" type the frames of which must perforce hang parallel to the entrance—are justified in doing so. On the other hand, some hives notably the "Cowan" and the "W. B. C." are so made that they can be used with their frames hanging either way, as may be preferred by those who use them. As a matter of fact, some bee-keepers alternate the position, placing the body-box with its frames hanging at right-angles to entrance, and *vice versâ* in the summer-time. By so doing they secure certain conditions beneficial at one season which become disadvantageous at another, and are to some extent benefited both ways.

H. S. (Herts.).—*Loss of Bees Last Season.*—We are sorry to hear of your misfortunes last season, but it would be unsafe to attribute the mortality to the cause mentioned without full investigation. If, therefore, you can examine the combs carefully and will note their condition, or preferably will send one on to us, we will do our best to help you arriving at a right conclusion on the matter. It will be needful for you to give us particulars of the dates, &c., when the mischief first showed itself, and how it affected the bees as time went on. The season of 1907 was so abnormal in every respect for bee-keepers, and caused such heavy losses everywhere, from causes quite apart from disease, that we must make sure of our ground before venturing an opinion on your case.

W. P. G. (Surrey).—*Expert Help for B.K. Association.*—We are obliged for your offer of help to any county B.K.A. needing assistance in visiting members, and, being personally able to testify to your ability as an expert, we need feel no hesitation on that score. Your four-weeks holiday is just a bit late to be of most service, but it will be right for counties other than those in the South. Should anything likely come to the front, we will advise you and give particulars of what is required.

J. S. (Croydon).—*Helping Isle of Wight Bee-keepers.*—While fully sympathising with your good intentions, we deem it best, in the interest of all parties, to make further inquiries before publishing your views with regard to the proposed method of rendering help. We will endeavour to deal with the matter next week.

Honey Samples.

WISEWOOD (Sheffield).—Sample sent has evidently been reliquefied from bulk before jarring off, and, being overheated in the process, it has a "cooked" taste we do not like. The quality is not bad, and, with regard to its source, we cannot say more than that it entirely lacks the flavour of good British honey. It is probably from Jamaica, or possibly it may be Chilian.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

SECTIONS.—Few dozen on hand, 10s., 11s., 12s. dozen.—KEITLEY, Manufacturer Bee Appliances, Blockley, Worcestershire. d 92

FOR SALE, Chapman Honey Plant Seed, large packet, 4d., postage free.—PULLEN, Ramsbury, Hungerford. d 89

WHAT OFFERS IN CASH for "B. B. J." and "B. K. R." for 1904-5-6-7, fit to bind?—TAYLOR, Jericho, Lindley, Huddersfield. d 87

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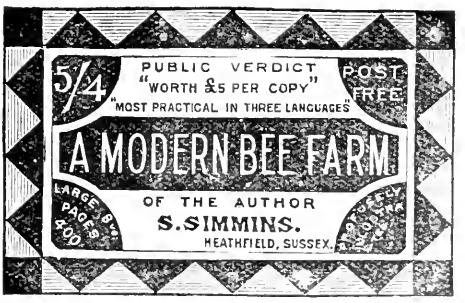

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The British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &C., AND W. BROUGHTON CARR.

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

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Editorial, Notices, &c.

CUMBERLAND B.K.A.

ANNUAL MEETINGS.

The annual meetings of this association were held at Whitehaven and Carlisle respectively on the 16th and 23rd inst. There were present:—Revs. A. E. Palin, J. Hodgson, Oswald Berkley, Colonel Blackett, Messrs. T. Carey, C.C., Arthur B. Bell, L. Bowman, D. Bouch, Caleb Bland, Geo. Bainbridge, James Henry, Geo. Ismay, Henry H. Simpson, Thos. Stephenson, Isaac Walker, John Vicars, and G. W. Avery (hon. secretary and treasurer).

The Rev. A. E. Palin presided at Carlisle, and Mr. John Vicars at Whitehaven.

A vote of condolence was passed with the family of the late Mr. Thos. Wright, Cockermouth. After the minutes of last annual meetings had been read and confirmed, the report and balance-sheet for 1907 were presented and adopted.

The report stated that seventy-one new members had been enrolled in 1907. The season had been one of the worst on record for the county, and very little surplus had been secured. The work of the experts was greatly hampered by long-continued cold and wet weather, but no fewer than 1,430 visits to bee-keepers had been made.

The financial statement showed a balance in hand of £29 11s. 7d.

Lord Muncaster was re-elected president. The vice-presidents were all re-elected, with Lady Lawson in the place of the late Sir Wilfrid.

The following were elected as executive committee for 1908:—Miss Ella M. Thompson, Rev. Canon H. D. Rawnsley, Revs. T. C. Bewes, B. G. R. Hale, D. R. Jones, and Wm. Roberts, Dr. James Arnott, Messrs. Caleb Bland, L. Bowman, Douglas Bouch, A. F. Helps, J. Henry, A. J. Hutchinson, J. B. Kitchen, W. S. Lawrence, T. J. Little, J. R. Tiffin, Jas. Thompson, Wm. Titterington, John Stephenson, John Veitch, John Vicars, Jas. Wakefield, and Jas. Williamson.

Members of the C.B.K.A. who are also County Councillors were elected on the executive committee. Mr. G. W. Avery was re-elected hon. secretary and treasurer, and Mr. A. B. Bell hon. auditor. The local hon. secretaries were also re-elected, with Mr. Jas. Wakefield in the place of the late Mr. Thos. Wright. The appointment of experts was confirmed, viz.:—Douglas Bouch, Cumberland; Joseph Price, Staffordshire; and James Smallwood, Middlesex.

It was decided to abolish the present system of giving small prizes at local shows, and to hold instead a single show for the whole county, with a good prize-list, at a different centre each season.

A proposal to hold only one annual meeting in future was carried at Whitehaven by a majority of ten, and passed unanimously at Carlisle.

The annual meeting for 1909 will be held at Cockermouth.

Votes of thanks to the Cumberland Education Committee for their grant in 1907 and to the chairmen at both meetings concluded the business.—G. W. Avery, Hon. Secretary and Treasurer, Armathwaite, S.O., January 24.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[6984.] *Thick versus Thin Combs.*—Our friend Rev. R. M. Lamb, in his letter (6965, page 21), covers the field fairly well with regard to the density of honey in thin *versus* thick combs, and I have no wish to cavil over the matter. I only gave my personal experience in extracting thick and thin combs stored in the same box, where one would naturally expect to find the same quality honey in both kinds of combs. When I found in practice that more labour was required to get the honey from the thinner combs than from thick ones taken from the same box, I naturally considered it was because of the greater density of the honey in the former, consequent on its being better ripened by the bees before sealing. It is well known by those who read my "notes" in B.B.J. that I work my apiaries principally for comb-honey in sections, and am therefore less qualified to speak of extracted honey than Mr. Lamb, who, I think, is a producer mainly of extracted honey, and we thus regard the matter from different standpoints. But if using thinner comb supers would increase the output by a goodly percentage—as Mr. Lamb states—then I should go in for more honey, and the extra time taken in extracting would not count.

While on the subject of "Thick *v.* Thin Combs," I note that your correspondent "Nondescript" (6971, page 24) asks me some questions. In reply I may say I have not noticed any difference in section-honey with regard to density in the same crate gathered in the early part of the season, but there is a great difference in early honey and that gathered late, so far as regards flavour, colour, density, and aroma; but that is no doubt accounted for by the difference in the bee-forage. The district from which honey is gathered also has a great effect on the density of its honey. In fact, it is not the man, but his district and his location in the harvest field of honey-production that win.

The tall section, according to the letters now appearing in the B.B.J., has cropped up again in sizes to suit countries and districts: In America the "Danzenbaker," 5 in. by 4 in.; in Scotland, for Ussie Valley, 5 in. by 4¼ in.; and for Yorkshire, 5 in. by 4½ in. Are the widths of these three sizes the same, or do they vary also? For myself, the 4¼ in. by 4¼ in. by 1⅝ in. or 1⅞ in., with two bee-ways, is preferable for general use, and not likely to be superseded by a thin tall section for many years to come by bee-keepers generally. This is my own personal opinion.

Packing Honey for Shows.—I can endorse what our "Berkshire Expert" (6970, page 24) says on packing honey for shows. I have many times helped to stage honey in jars which, on opening the box after much trouble, were found to be wrapped and tied, and *re*-wrapped, then wedged in among paper packing galore used to fill the box—a nice job to unpack and stage, which gives rise to remarks other than complimentary among stagers overloaded with work! Can exhibitors expect them repacked and rewrapped in the same way for the return journey? Possibly the next package will be a neat box, easily opened, and containing a dozen jars standing upright in corrugated-paper divisions for lifting out, and staged in two minutes, and ready for repacking at end of show in the same space of time. This style of packing is, in my opinion, the best and safest of any.—W. Woodley, Beedon, Newbury.

NARROW SECTIONS.

PLEA FOR A NEW DEPARTURE.

[6985.] I am sorry Mr. Ellis (6979, page 37) is distressed because I have gone in for a special size of section. He fears it will add to discord, and bring ruin on the new style. I admit that various sizes of appliances, as well as systems of working, are confusing, but let us hope time and patient work during a period of trial will evolve the best. It is, however, four years ago that I launched my size, having found nothing quite suitable, and gave the measurements in the story of my apiary in B.B.J. of July 29, 1904. I will explain how it came about. At a time when I felt the want of a narrower receptacle for comb-honey, I was pleased to learn that some leading American bee-keepers were of the same opinion, and were using, amongst others, size 5 in. by 4¼ in. This looked promising, and I gave it a good trial. But I found that most of them, when filled, weighed less than 1 lb., and the size was not convenient for hanging beside shallow-frames; more wood was required for the sides of the frames which held them, and past experience told me excess of wood was discouraging to the bees. I therefore decided to give up all makeshifts and have a special size made. I have, of course, to pay extra for a special article, but I gladly do so when it brings definite advantages. After testing it four seasons, I can confidently recommend my size as a superior commercial section, and I have willingly paid for its advertisement, so that any who desire improvements may know and try it. It is not patented, nor do I gain a penny directly. I shall only share the advantage of a lower price with others if a good many decide to adopt it.

I will now proceed to describe some features I think worth noticing in it. The length and breadth are 5 in. by 4½ in.; the width of sides is 1½ in., of top and bottom 1¼ in. all along, so that bees have free communication without any projections at corners, as in the ordinary two-bee-way sections. The bee-ways are half in the section and half in the fence-separator; that is, my system is a *via media* between the ordinary and plain section. Aiming at a handy commercial section, I could not see my way to use a plain section; yet the principle of the fence-separator is utilised, and helps to bring the comb near enough to the edge of the section to appear plump and attractive. How to fix the fence and remove the filled sections easily required much thought. Some methods suggested by friends were tedious and expensive to make. Fortunately I hit upon the idea of pivots in the sides of the frames, upon which the fences could revolve. These proved simple and effective, and are never clogged by propolis, as some feared. The fence acts as a separator, and is also the means of pushing out the sections when the top and bottom ends of it are pressed alternately.

With these sections hung beside shallow-frames, I contend I have secured the best method of supering. To any who would fondly cling to size 5 in. by 4¼ in., because old racks, if heightened, could

still be used, I reply, "Don't hesitate to put them aside; sections should be framed to keep them perfectly clean, and the shallow-frame super suffices for both comb and extracted honey."

Again, I have less section-extracting, because a larger proportion of my sections are completed than the ordinary ones. Further, bait-sections, which mean second-class honeycomb, are not wanted. When honey comes in slowly, shallow-frames only should be given, and the frames of sections (I generally use a set of four) placed in the centre of the super as soon as a strong flow of the best honey begins. Mr. Quinby—perhaps the most practical American bee-man of the last century—thirty years ago advised for the production of the choicest box-honey to give sections only when a good flow had set in and the bees could work straight away.

In determining my section I frankly acknowledge my indebtedness to many foremost bee-masters. Their valuable experiences and observations of certain principles are the foundations on which I have tried to work. For instance, when our Junior Editor introduced the shallow-frame a sound, progressive step was taken, for which we cannot be too thankful; sound because it had for its basis a true principle—give room gradually—and also because it was standardised, or linked to the standard frame. No wonder it came to be recognised as a dual standard. Until then the standard frame was generally used for supering, and those who wished for a section to fit it looked favourably on size 4½ in. by 4 in. by 2 in. It was in experimenting with shallow-frames that I learnt the value of thinner combs. This led to the question, If the work of the bees was satisfactory in thin shallow-frames, why not give them thin sections? Again, If frames were an advantage, why not hang sections in them, to be worked beside shallow-frames? And, lastly, another question has greatly puzzled me: Why did not Mr. Broughton Carr go forward and select a section for his shallow-frame? He was a man of enterprise; he knew many had been disappointed with the ordinary section; he thought there was some gain in hung sections; and he was well aware twenty years ago that thin combs contained better honey, for in 1889 he wrote in the *Record* (page 94):—"We work them (shallow-frames) at the ordinary 1½ in. distance, experience proving that the honey is of better consistency than when extracted from thick combs."

He had then only to put the finishing touch to his super, and make it available for both comb and extracted honey by choosing a section to fit it, but, instead of this natural progress along the lines of simplification and standardisation, which we might have expected, he went out of his way to introduce more apparatus—super and shallowest frame—in aid of the square section. Well, if the course he took is to me inexplicable, I can at least give Mr. Carr credit for a kind heart in taking pity on a poor struggling creature and giving it a lift.—Richard M. Lamb, Burton Pidsea, Hull.

HONEY EXHIBITS AT SHOWS.

PACKING AND REPACKING.

[6986.] I have for some years past exhibited at the principal shows, and being naturally interested in the subject of safe packing, I will gladly aid my fellow exhibitors if I can. In the B.B.J. of January 9 and 23 (pages 14 and 37) there appear letters from two Scottish bee-keepers whose experiences are certainly not happy, and perhaps the cause of their trouble is not far to seek. According to "Bee-man" (page 14), his exhibit was "packed in a wooden box with corrugated paper round each jar"; but this, in my opinion, is no way to pack honey for show, seeing this entails a lot of unnecessary trouble on the stewards, which an exhibitor has no right to inflict. The box should be made the exact size to hold twelve jars upright with divisions of corrugated paper between, so that in staging each jar can be lifted with the finger and thumb to its proper position on the show-bench. No screws or nails should be used to fasten cases. I have seen exhibits arrive at shows packed in all manner of cases, nailed, screwed, and corded in every conceivable way likely to cause trouble and annoyance to officials. It appears to me that want of thought is largely responsible for most of the troubles complained of. The modern bee-man and the up-to-date appliance-maker have no doubt made immense progress in the management of bees and the manufacture of hives, but bee-keepers have made little or no progress in the packing and shipment of their produce.

Many of us have seen and sympathised with the genial parson who, acting as steward or willing assistant at some of our honey shows, attired in his good broadcloth, dipping up to the elbows in boxes amongst hay mixed not seldom with a liberal splash of honey from a broken jar! But this should not be. The duty of every exhibitor is to see that his produce is safely packed in the most convenient form for removal and replacing in its original package for the return journey with ordinary care. This can be done simply by making a suitable package, and for the guidance of my bee-friends who choose to make their own travelling crates or boxes, I give particulars of three cases designed to hold twelve 1-lb. jars, twenty-four 1-lb. jars,

and thirty-six ½-lb. jars respectively. The cost is trifling, and the crates will serve the purpose for years:—

MATERIAL FOR HONEY CRATES.

FOR 1 DOZ. 1 LB. JARS.

2 pieces, 8¼in. by 6½in. by ⅜in. ends.
2 pieces, 12½in. by 6½in. by ⅜in. sides.
2 pieces, 12½in. by 9½in. by ⅜in. lid and bottom.
2 strips to strengthen lid, 9½in. by 1½in. by ½in.

FOR 2 DOZ. 1 LB. JARS.

2 pieces, 11in. by 6½in. by ⅜in. ends.
2 pieces, 18in. by 6½in. by ⅜in. sides.
2 pieces, 18in. by 12½in. by ⅜in. lid and bottom.
2 strips to strengthen lid, 12¼in. by 1½in. by ⅜in.

FOR 3 DOZ. ½ LB. JARS.

2 pieces, 7½in. by 9½in. by ⅜in. ends.
2 pieces, 16in. by 9½in. by ⅜in. sides.
2 pieces, 16in. by 8⅝in. by ⅜in. lid and bottom.
2 strips to strengthen lid, 8⅝in. by 1½in. by ½in.

All timber to be dressed one side.

Two pairs of hinges and suitable fastener for each box, with one japanned box handle to be screwed in centre of lid, or two holes bored in lid and front of box to tie with string will do instead of fastener.

Each box to be lined with corrugated paper with properly cut divisions of the same.

I shall be pleased to answer any further inquiries.

I have a large number of these cases in use, not only for shows, but for ordinary export purposes. They are easy to handle, and as much appreciated by customers as by show officials, and reduce the troubles of exhibitors to a minimum. I never have any trouble with the railway company through breakages, and I probably send as much honey in jars by rail as most bee-keepers.

I entirely agree with your correspondent "Third-class Expert" (6970, page 24) on this subject. The only point of difference between us seems to be in our respective personalities, for while our Berks friend describes himself as "a *bit* of a showman," I stand 6 ft., with over the average girth!

I trust your readers will get their honey-cases ready and have more use for them than they had last season.—A. S. DELL, The County Apiaries, Leigh, Lancs., January 24.

REPACKING EXHIBITS FROM SHOWS.

[6987.] May I offer a few lines in reply to "Bee-man, Scotland" (6977, page 36), who makes some uncalled-for and unjustifiable remarks on our English experts? Referring to bad packing, he very politely says, "Can you wonder we on this side of the Border laugh at 'expert' ability in this direction?" I suppose there are a great many more exhibitors at shows on this side of the Border than there are on the Scotch side, and we do not indulge in the habit of laughing at the ability or otherwise of Scotchmen in this direction. I think I can say this much, not only for myself, but for all the leading exhibitors at leading shows in England, and some in Scotland (names enclosed for Editors' reference): I sent an exhibit of heather-honey (which had won five first prizes without a defeat) to one of the leading shows in Scotland. I naturally valued this exhibit very much, but the Scotch "experts" apparently did not know how to put the jars back in the travelling boxes at all, my own and other exhibits being sold against our wish; even where some exhibitors put the selling price at 3s. 4d. per 1-lb. jar, the owner received 1s. per jar in payment. A Scotch friend writes me to say, "I lost mine last year; it was *lifted* by mistake—at least, it disappeared." Another says: "I lost 15s. worth of honey from my trophy in one night." It is a serious matter when the best honey in the country is unwillingly left behind in the hands of our Scotch friends and may be staged against us in competition later on. I do not think we on this side of the Border have such a record as this. Your correspondent "Queen of the South, Scotland" (6981, page 37) seems to have advised a friend to claim damages from the show management, and had "not the slightest doubt he would have come off more than second best in any law court." I do not agree with "Queen of the South," for I placed my grievance in a solicitor's hands, and he, after writing two letters, and finding nothing could be done without going to Scotland, advised me to accept the offer of 1s. 6d. per jar. Your last-named correspondent, on page 38, gives us his method of repacking exhibits at shows as a lesson for us. He starts repacking early. So do our experts, and keep on late as well. I was an exhibitor at the last Grocers' Exhibition, and in one class there were thirty-two entries (384 jars), and in some of the boxes I saw they had to draw 2-in. nails and find bits of wood before they could be repacked at all. Did our Scotch friend ever have an experience like that? If he is such a large exhibitor he must know which Scotch show I have referred to and my reason for not naming it; but the letters I have mentioned are at our Editors' disposal if desired. As I was a successful exhibitor at the two "leading shows" in Scotland, I should like to make the acquaintance of "Queen of the South, Scotland."—J. PEARMAN, Expert, Penny Long Lane, Derby.

P.S.—My wife wishes me to state that (as an exhibitor) she has attended every show under the auspices of the B.B.K.A. for the last three or four years, and per-

(Continued on page 46.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

The picturesque little apiary of our friend Mr. Moughton seen below will serve as an object-lesson to bee-keepers who do not set their hives level, even when the ground on which they stand is flat and even. This is a *sine quâ non* in good bee-keeping, and is carefully seen to in the hives shown. We need not add to the "notes" sent, which read as follows:—

"I commenced bee-keeping four years ago by buying two swarms in frame-hives. Not knowing anything about the craft, I allowed the bees to remain untouched until the following summer, when my single stock increased to eight through excessive swarming. As this rate of increase did not meet my views, I endeavoured to find out how to prevent swarming, and luckily became possessed of the 'Guide Book,' and later on began to take the B.B.J., and studied both with such good results that I have only had one swarm since from a dozen stocks—that is, during two seasons.

"I had an excellent honey-crop in 1906, my best stock (Italians) yielding nearly 100 lb. of extracted honey. The past season of 1907, however, has been a bad one; but I do not grumble, as I took about 100 lb. of surplus from twelve stocks, which is as much as I expected.

"I have had two cases of foul brood in hives which I unfortunately bought; but I promptly destroyed the lot by fire, and have not been troubled since. As a precaution, I keep naphthaline in all my hives, and also medicate all syrup given to bees. The hives seen in photo are all home-made from used boxes on the 'W. B. C.' plan, and I find them work very well. It is to me one of the pleasures of bee-keeping to be able to make up a cheap hive, and it affords a means of spending the long winter nights in one's own home.

"My garden is well sheltered from most winds, has a clear flight in front, and faces south. There is a wealth of wild flowers in this district, the gorse being the earliest; then follow clover, heather, and fuchsia.

"I am able to dispose of my surplus honey easily at 9s. per dozen jars, but I find there is no demand for comb-honey here. We also use a quantity for our own table, as the food value of honey is so high that I consider it one of the best foods obtainable. Moreover, I can prove that in my own case, having made more weight by using honey, after an illness, than could be made from any food known (in a given time). I would not be without bees now on any account, for there is no hobby I know of which affords so much pleasure as bee-keeping.

"To go into the bee-garden during July and see the rush and hear the hum of half a million bees is an ecstasy to the bee-man, and something that nothing else on earth could replace; while if one is interested in the problem of life, there is sufficient food for thought in the study of bee-life to last a man all his days. I conclude by wishing all a very happy and prosperous season."

MR. J. J. MOUGHTON'S APIARY, LAXEY, ISLE OF MAN.

("*Repacking Exhibits from Shows*," *continued from page* 44.)

haps has seen as much of the work of repacking as anyone, and can testify to the ability and courtesy of the secretary and also the expert in charge. She also says it will require a very big lump of salt to make palatable the statement that the "jars were packed upside down"!

NOTES FROM NORTH HERTS.

"OLD" VERSUS "NEW" METHODS.

[6988.] Surely your correspondent "Bees' Friend," who writes on page 23, does not wish to suggest that these skeppists are ideal representatives of the old order of bee-keeping? Why should keeping bees in a skep render a man incapable of accepting fresh ideas?

There have always been good and bad bee-keepers, and when the better ones of the old school have adopted frame-hives, the residue can scarcely be seriously put forward as the representatives of progressive bee-keepers who have left their ranks. In days gone by bees were kept in skeps in a manner that would have pleased the most fastidious with regard to neatness and cleanliness, and in the future it will doubtless be possible to find bar-frame hives in a sad state of neglect. It is the bee-keeper and not the system that is responsible for untidiness and neglect.

Self Cures.—I note that Mr. Crawshaw, on page 27, criticises my mention of bees curing themselves of foul brood, and asks for further information. My view is that any case of foul brood should be treated as dangerous and contagious. The disease, however, is modified by the condition and susceptibility of the particular stock attacked, and if the case is a mild one, although of the bad-smelling type, I cannot see why its cure would not result if a sufficiency of formic acid was present in the food given to the larvæ. Suppose we adopt the view that self cures are restricted to the odourless type of foul brood, which we resolve to distinguish by labelling "chicken brood." Then all cases that were capable of disappearing without treatment would necessarily be lumped together as "chicken brood." If subsequent researches show that the two types of foul brood are separate diseases we shall probably find that each one is mild or malignant, according to circumstances. If it transpires that we have but one disease, with the symptoms varied by the differing conditions, there will scarcely be need for another name.

I should like to know if any reliable observations have been made of stocks suffering from foul brood that have been found to cure themselves. Does the disease commence to abate when the brood-nest is expanding and the stores diminishing, or when these conditions are reversed? It would be interesting to know the actual conditions present when the self cure commences.

Cross-breeds.—In this matter I may also help Mr. Crawshaw by saying that my note contained a misprint, as it was not my intention to state that cross-breeds became sterile. It should have read: "If cross-bred horses become sterile, the rule does not apply," &c. I doubted the statement, but did not think it worth discussing. With regard to bees and the observed disappearance of the yellow race in the case quoted, I should imagine it to be the effect of "swamping." The fourth generation would only contain one-sixteenth of Italian blood if a cross with blacks was made each generation. This sixteenth would not necessarily show itself in colour.

I certainly agree with Mr. Crawshaw that queen-breeding is a subject for specialists. With regard to almost all stock, improvement by selection is in the hands of scientific breeders. The rank and file make use of the selected strains for improving or supplanting their own. It is only the bee-keeper who expects his stock to form its own standard, and to consider him when doing so.—G. W. BULLAMORE, Albury, Herts.

QUEEN SUPERSEDURE.

[6989.] I was much interested in Mr. J. M. Ellis's contribution to B.B.J., December 19 last year (6938, page 504), on "Queen Supersedure," and should like to ask that gentleman for a little more information on the following points:—1. On re-queening a stock I presume he does not clip the new queen's wings until the following spring? 2. How much of the queen's wings does he clip off at each operation? 3. Does not this clipping of the wings, especially after the second operation, cause the queen to be lost in the event of the stock swarming? 4. The swarm would then return to parent hive, which would re-queen itself, I presume?

My apiary is situated some distance from home. I am also unable to be present at swarming time, except on Sundays, and rather than have a swarm decamp or be lost through inattention, I would prefer that it returned to parent hive, as queried above. I gather from Mr. Ellis's article that a queen reared, say, in 1907 will not be replaced until the autumn of 1910, when the queen would be three years old; that is, providing the stock did not supersede its queen through any cause.

I presume, however, that Mr. Ellis only permits those queens which show no signs of their prolificness failing to head stocks

for three seasons. In addition to identifying the age of queens by the condition of their wings I would ask:—Does he not also keep a record in black and white? Thanking Mr. Ellis in anticipation of his kind reply, I send name and sign—LILAC, Derby, January 22.

HYBRID LIGURIAN-ENGLISH BEES.

[6990.] Mr. Sladen has mentioned my name in connection with the discussion on the advantages of crossing English bees with Italians. For a considerable time I have noticed that this cross certainly makes a good honey-gathering bee. It certainly is likely to sting more than pure strains which predominate in our own country, and will swarm prolificly unless well controlled. For instance, last year such stocks swarmed very frequently, and the swarms from these swarmed again in a very short time, but there was very little else for them to do. Had the season been favourable for honey-gathering, large quantities would no doubt have been secured where such stocks were situated in a good district. I noticed, too, in many apiaries Italian-English bees produced more honey than others working under similar conditions. Yet again there were hybrids in some extensive private gardens which gathered a lot of honey, and were gathering from the late-flowering lime at the beginning of September. But half a mile away similar stocks scarcely stored enough for winter use. It is noticeable in this part of Essex, which does not produce an abundance of honey, that where Italian blood has been diffused by means of swarms sold, and occasionally stray swarms settling in an apiary, the stocks have become more vigorous. For comb-honey English bees cannot be beaten, and with proper selection of queens and drones would probably be as good as a cross for producing honey in quantity.

It is quite true that the largest apiaries in Suffolk and borders of Cambridgeshire, which I myself have visited, contain "Golden" blood—*i.e.*, Italian cross or Sladen's Golden strains. In other apiaries where foul brood is found it was noticeable that one large district impregnated with Carniolan blood was more severely infected with foul brood than any other. This may be attributable to those who sold the Carniolan stocks, rather than that strain should be more susceptible to disease than other strains. I have seen stocks soon after being imported develop disease very readily, but it was not always of a virulent type.—A. W. SALMON, Secretary, Suffolk B.K.A., "Cashfield," Chingford, Essex, January 27.

LIMERICK COMPETITIONS.

[6991.] Referring to your "Notice to Correspondents" column and the reply to B. J. Wright (page 40) last week, may I be allowed to say the letter containing the result of the competition in question was posted on January 6, but owing to a delay by the postal authorities was not delivered until too late for the Press?

Until I received my copy of the B.B.J. I was unaware that the winning line was not inserted, as it was sent to the manager with the winner's name. Perhaps owing to additional press of business at Christmas it escaped publication. However, I give it again: "*'Blacks' have finished ere the others have begun.*"

Many of the lines sent in were extremely good, but this one was considered best from my point of view. Unfortunately one cannot award as many prizes as one would wish, otherwise I should have been happy to give a second and third prize. Mr. Wright's line was among the good ones, and although I highly approve of the "Guide Book," I consider his line was advertising the "Guide Book" more than my bees.

As the Junior Editor of the B.B.J. is so well known in the bee-world, I am asking him if he will be good enough to judge the current competition, and, in order to give him time to do so, the result will not be published until February 13, and entries may be posted up to Saturday evening, February 1.—W. E. E. CHARTER, Tattingstone, Ipswich.

[Our correspondent is mistaken with regard to the winning line; the letter received contains only the name of winner, as published, the line being, no doubt inadvertently, omitted. While appreciating Mr. Charter's good-natured offer to hand over the task of adjudicating in his competitions to the "Junior Editor," that "well-known personage in the bee-world" is perforce compelled to restrict his judging to honey and bee-appliances, and must draw the line at "limericks," of which he is sorry to confess entire ignorance. If our good friend Mr. L. S. Crawshaw could be tempted to take on the task, he would make an admirable adjudicator.—EDS.]

BEE-KEEPING IN NORTH KENT.

On Thursday, January 9, the members of the Crayford and District Bee-keepers' Association turned up in great numbers to hear their president, Mr. E. R. Stoneham, Orchard House, give a highly instructive and interesting lantern lecture on "The Anatomy of the Honey-bee."

Mr. Garratt, the Kent County Council lecturer and bee-expert, has given the association praise for the progress made

and interest displayed by them in bee-keeping. One of their members, Mr. G. W. Judge, Hawley, Dartford, in the "apiary competition" obtained thirty-six points out of a possible forty, and during the poor season of 1907 took 436 lb. of honey from eight stocks of bees, gathered mainly from a large acreage of raspberry blossom growing close to the hives.

On Thursday, February 13, at the Crayford Parish Room, at 8 p.m., a meeting will be held at which two bee-enthusiasts will each give a short paper on "The Bee," to be followed by a discussion. The membership of the Crayford and District B.K.A. already numbers about sixty.

The last winter indoor meeting will be on the second Thursday in April, when the summer programme will be announced.—J. M. Bates, Hon. Secretary, Slade Green School, Erith.

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. Macdonald, Banff.

Cellar Wintering.—Mr. Ernest Stanley in the *American Bee-keeper* says:—"I have a good dry cellar in which to winter bees, but as long as I can winter successfully on summer stands I have no desire to change. One thing can scarcely be disputed—that bees wintered on summer stands are more hardy than those cellar-wintered, and they will be stronger in numbers at the beginning of the harvest." The same writer has this to say of the hive:—"There is no perfect hive. I believe, however, the best hive is one that can be made large or small in a moment, as it can then be adjusted to meet any emergency." This is fully recognised in this country, for every hive on the market is capable of expansion or contraction at the will of the owner, and this is one of the greatest blessings in modern apiculture.

A "*Vital*" *Point in Honey-selling.*—"The purchaser does not want the seller to dictate to his taste, as he knows perfectly well that the honey he likes the best *is the best* for him. People have their own taste, and instead of cultivating a taste we have only to cater for it. We are too apt to set up our own standard and expect everybody else to adopt it because it is ours." For years I used to lure customers into becoming purchasers of clover-sections and a blend of the two when they were ordering heather-honey; but experience has taught me, as it did Mr. Facey in *Review* quoted above, to cater for the tastes of my customers. Many will willingly give 1s. 6d. per lb. for pure heather, and pass by excellent clover-honey at half that price. For such customers I have got to recognise that what they like is the best for them.

The Strain of Bees.—The editor of the *B.K. Review* for December (page 341) records the following:—"We had in one apiary fifty colonies of a distinct strain that increased to 104 colonies, and stored 2,700 lb. of surplus, while sixty colonies of ordinary bees in the same apiary increased to only eighty colonies and stored about 2,000 lb. of surplus. The treatment was the same throughout. The only difference was in the strain of bees." As Mr. Hutchinson in another place has pointed out, it costs as much in labour, material, hives, appliances, and general outlay to keep up a poor lot of bees as a superior strain. The inference is patent: See that your bees are not "scrub" stock; weed out all poor queens and supplant them by the best that money can buy or you yourself can rear from your very best and most desirable mothers who have proved their superiority.

Dual Queens.—In summing up the results of a discussion at the recent convention, *Gleanings* says:—"The majority of those present who took part in the discussion seemed to feel that it was practicable to run two queens to a hive, *providing* they were separated by perforated zinc. Even more could be kept so long as there was general prosperity in the hive; but when a dearth of honey came on all the queens would disappear but *one.*" Even Mr. Alexander (page 1496) has to acknowledge that *now* "he can find but one queen in each hive." So this is the end of it all! We, too, have gone through the "Wells" boom, and, better as a system though it was, very generally one of the queens went a-missing, *even with* a separation between the two stocks.

A Warning Finger.—"It is true in most cases if we feed honey bees will do well, but we can never know what there is in honey that the bees gather—cider, rotten-apple juice, sugar from grocery store or old barrel, honey-dew which may be good or may be rank. So we see there are many ways in which bees may have faulty stores." Many suffer from above or similar causes if it were only possible to trace to the root of the matter, and stocks are lost yearly from defective stores. Certain seasons, of which the present is one, provide the bees with stores the consumption of which tends to dysenteric symptoms.

Deep Bottom Space.—Our good friend Dr. Miller in last *Gleanings* advocates a 2-in. space between the bottoms of frames and the floor-board not only in winter but also in summer; in fact, "all the year round. The eke in the 'W. B. C.' hive provides a 3-in. space during winter, but custom or heredity has taught us all to remove it in spring. I wonder now if it

would be safe to leave it there summer as well as winter. I will make an experiment. Of course bees in a honey-glut fill up any space over ¼ in. if they are pressed for room; but I know that, properly managed, they will respect a space of over 1 in. below frames, and I have even thought rather enjoyed the freedom of movement it provided them with. Would it not also be a swarm preventer?"

Acid in Stores.—Mr. Byer in the *Canadian Bee Journal* says:—"I have never fed a single ounce of acid in any form in all the feeding I have done. In the face of this is it any wonder that I regard the granulation of thick syrup as an insignificant factor as far as wintering is concerned." In this locality I would certainly use it every time, and so save myself some sleepless nights.

Again, several of late not only approve of late feeding in autumn, but heartily recommend it in preference to an early providing of each colony with full stores. My strong preference would be for early feeding. Also, I would advocate *thick* syrup in preference to thin in autumn supplies. The condition of the weather at the time feeding goes on might, however, modify my opinion in both instances.

Queries and Replies.

[3655.] *Mice in Hives.*—It may be only coincidence, but it is nevertheless a fact that most frequently when doubt and difficulty have presented themselves in the apiary some contributor's comments or your reply to some inquiry in the current number of the BEE JOURNAL has shed light which has helped to clear up the mystery before me.

To-day, with a view to giving a cake of candy to each of my seven stocks, I was astonished to find, on opening hives Nos. 2 and 6, that the occupants were dead, although they had ample stores and warm coverings.

Upon a closer examination I found five large barn mice in the two hives, which, of course, had played havoc with the frames and honey. The entry had been made through a contracted opening, and it speaks well for the nutritive properties of nectar that the invaders had thrived so well that egress was impossible by the same way.

A few hours afterwards I picked up this week's B.B.J., and found that a correspondent, in his "Notes from Sussex" (6967), refers to the fact of his having suffered considerable loss two years ago through mice wintering in his hives, and gives a little sound advice which would certainly prevent a recurrence.

The word "loss" I presume refers to the loss of his bees, but I would be glad if you would kindly reply to the following questions:—1. Were the mice solely responsible for the death of the bees, or do you think the cold snap has been too much for them? 2. If the former, I would ask: Cannot bees defend themselves against the invaders, and, if not, what causes death? 3. As it is possible that my remaining hives may be infested, and sooner or later will share the same fate, what would you suggest, as the weather is unfavourable for overhauling hives?

I have kept bees for four years, and never experienced anything of this nature before; but as it may fall to the lot of any bee-keeper unless precautions are taken, perhaps a word in season may obviate the possibility of some reader sharing a similar fate to myself.—F. L. C., Endon, Staffs.

REPLY.—1. If the "ample stores" referred to had disappeared when the hives were examined, the death of bees may safely be attributed to the mice; but if plenty of food was found after the bees died it must have been the long spell of adverse weather that killed them. 2. Strong stocks of bees will not allow mice to invade their hives for pillage during the active season, or at any time when the bees are not in a lethargic condition owing to cold. 3. The first warm day should be availed of to examine the combs where any uncertainty exists with regard to the food stores.

[3656.] *Making Artificial Swarms in April.*—I should be glad if you would kindly reply to the following in the next issue of the B.B.J. In one of my stocks of bees the queen will in May next enter her second year. I am obliged to be absent from home from May 13 to June 5, and unfortunately have no one who can give an eye to the bees while I am away. There is a quantity of fruit of all kinds grown in the neighbourhood, and I therefore conclude the honey-flow begins rather early in this district.

I propose to artificially swarm the bees about middle or end of April (providing they are in a fit condition), and from then onward to the time of leaving home to spread the brood in each hive up to, say, eight or nine frames, and leave them, say, with a super on each.

1. Do you think that under these circumstances I could safely leave them without fear of them again swarming, or would it be advisable to use a swarm-catcher similar to the one illustrated in the B.B.J. of January 9? It seems to me that the appliance named would interfere with the progress of bees in and out, especially if the honey-flow was on. What is your view? 2. On Friday,

January 17 (a very mild day), the bees came out for a cleansing-flight, and partook freely of water from an adjacent pond. Does this indicate breeding proceeding? Thanking you in anticipation for reply. — T. E. Stone, Slough, January 27.

Reply.—1. By referring to the "Guide Book" (pages 93, 94, and 95, new edition) and studying the chapter on "Artificial Swarming" you will be fully informed as to what is needed for safe guidance in the operation in question. Not only so, but you will see that no mention is made of brood-spreading in connection with artificial swarming. As a matter of fact, the method you have outlined above must on no account be adopted, as it would be likely to lead to failure. To begin with, we must ask: Which one of the several known methods of making an artificial swarm do you propose to follow? If that in which two stocks are made from one, by placing the swarm on the old stand and moving the parent hive a few yards away, there will be no need either for "spreading brood" or fear that swarms will come off either hive in your absence. All that will be required is to give super-room to the swarm as soon as the bees have got well on with comb-building in the body-box; and also to the parent hive, if there are bees enough to warrant it. You must also remember that fine weather and honey coming in freely are absolute requirements at the time artificial swarms are made. 2. Your bees are evidently doing very well, judging from the visible signs mentioned. Carrying in water alone, however, is not a sure sign of breeding. When brood is being reared the bees will be seen carrying in pollen, if any is to be had in the neighbourhood.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

*** Our correspondent "Honey-man, Kent," writes as follows:—"Allow me to thank you for reply in B.B.J. of January 23 to my query (3654) *re* dead queen; but I am annoyed to find I rather misled you by my former letter.

"I should have said that the stock is Sladen's hardy and prolific bees of 1903, very much darker than his present Goldens, of which I also have some. The dead queen is much the same in colour as the original one of the stock; in fact, I should not have been greatly surprised to learn that even my supposition as to requeening was only a fancy!

"The word 'floor-board' in my letter was a slip of the pen. What I meant to refer to was really a board which I always keep below and just in front of the alighting-board (on the ground) to save tired foragers in the working season and to catch the cast-out dead (for a record, &c.) in the winter. It was this board that a week before I had cleared, and I mentioned the fact to show that the 'royal corpse' could not have lain there more than six or seven days at the most. The hive has not been opened since the autumn."

J. B. (Carmarthen).—*Dealing with Foul Brood, Preparing Bee-food, Recipes, &c.*—The subjects you ask us to inform you upon are altogether beyond anything we can say in this column. If you are to make a success of bee-keeping a reliable text-book is absolutely necessary, and cannot be dispensed with.

Zummerzett (Bridgwater). — *Planting Flowers for Bees.*—The question whether it would pay you to hire half an acre of garden, now unused "and overgrown with weeds and rubbish, &c.," depends on what rent you are asked to pay. Unless it could be had for a very small sum indeed, it would not pay to hire it for growing bee-forage. No doubt, if planted with suitable forage, it would benefit your bees very appreciably, but it would be equally beneficial to all the bee-men in the district at your expense.

J. P. (Derby).—*Show Disputes.*—We are obliged for sending on names, &c., for reference, and will use the information, if needed, at a future time.

W. E. B. (Hungerford).—*Insurance for Bee-keepers.*—It would be well to invite attention in the quarter you name to the particulars given in last week's B.B.J. on the subject of insurance, and the conditions under which the policy is issued. Copies of the circular can be had on application to the Secretary of the B.B.K.A., 12, Hanover Square.

Honey Samples.

Lilac (Derby).—Your sample (granulating, but not solid) is fair in quality, but coarse and hard in grain. It will not be likely to sell freely as a granulated honey, and we advise its being reliquefied and sold in liquid form.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

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AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR.

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

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APPLIANCES.

A price must be affixed to each article exhibited in Classes 442 to 446, the price named to include every portion of the Exhibit staged.

Class 442.—Collection of Hives and Appliances to consist of the following articles (open to Manufacturers of Bee Appliances only, being articles sold in their usual way of trade, and as far as possible of the Exhibitor's own Manufacture).—Three Frame Hives complete, fitted with arrangements for Supering; a Suitable Outfit for a Beginner in Bee-keeping (the Entries for which are to be grouped together); 1 pair of Section Racks fitted with Sections; 1 Extractor, 1 Slow Stimulating Feeder, 1 Rapid Feeder; 1 Smoker or other Instrument for Quieting Bees; 1 Super Clearer; 1 Veil; 1 Swarm Box for travelling purposes; 1 Nucleus Hive for travelling; 1 Travelling Crate for Comb Honey; and other distinct articles not specified, at the discretion of the Exhibitor. First Prize, £4; Second Prize, £2; Third Prize, £1.

Class 443.—Best and most complete Frame Hive, for general use, unpainted. First Prize, £1; Second Prize, 15s.; Third Prize, 10s.

Class 444.—Most complete and inexpensive Frame Hive for Cottager's use, unpainted, price not to exceed 10s. 6d. First Prize, £1; Second Prize, 15s.; Third Prize, 10s.

Class 445.—Honey Extractor (Prizes offered by Mr. T. W. Cowan). First Prize, 15s.; Second Prize, 10s.; Third Prize, Certificate of Merit.

Class 446.—Observatory Hive, not exceeding three Frames, with Bees and Queen; each comb to be visible on both sides. First Prize, £1; Second Prize, 15s.; Third Prize, 10s.

Class 447.—Any Appliance connected with Bee-keeping to which no Prize has been awarded at a Show of the Royal Agricultural Society of England. First Prize, 10s.; Second Prize, Certificate of Merit; Third Prize, Certificate of Merit.

HONEY.

Class 448.—Twelve Sections of Comb Honey, of any year, approximate weight 12lb. First Prize, £1; Second Prize, 15s.; Third Prize, 10s.

Class 449.—Twelve Jars of Run or Extracted Light-Coloured Honey of any year, gross weight to approximate 12lb. First Prize, £1; Second Prize, 15s.; Third Prize, 10s.

Class 450.—Twelve Jars of Run or Extracted Medium or Dark-Coloured Honey of any year, excluding Heather Honey, gross weight to approximate 12lb. First Prize, £1; Second Prize, 15s.; Third Prize, 10s.

Class 451.—Twelve Jars of Granulated Honey of any year, gross weight to approximate 12lb. First Prize, £1; Second Prize, 15s.; Third Prize, 10s.

Entries in Classes 448 to 451 open to Cheshire, Cumberland, Derbyshire, Durham, Herefordshire, Lancashire, Leicestershire, Lincolnshire, Monmouthshire, Northumberland, Nottinghamshire, Rutland, Shropshire, Staffordshire, Warwickshire, Westmorland, Worcestershire, Yorkshire, the Isle of Man, Ireland, Scotland, or Wales.

Duplicate Prizes corresponding with the foregoing will be offered in the group of counties named below, and numbered 452 to 455.

Open to Bedfordshire, Berkshire, Bucks, Cambridgeshire, Cornwall, Devon, Dorset, Essex, Gloucestershire, Hampshire, Herts, Hunts, Isle of Wight, Kent, Middlesex, Norfolk, Northamptonshire, Oxfordshire, Somerset, Suffolk, Surrey, Sussex, or Wiltshire.

MISCELLANEOUS.

Class 456.—Three Shallow Frames of Comb Honey for Extracting, gathered during 1908. First Prize, £1; Second Prize, 15s.; Third Prize, 10s.

Class 457.—Six Jars of Heather Honey of any year, gross weight to approximate 6lb. First Prize, £1; Second Prize, 15s.; Third Prize, 10s.

Class 458.—Six Jars of Heather mixture Extracted Honey of any year, gross weight to approximate 6lb. First Prize, £1; Second Prize, 15s.; Third Prize, 10s.

Class 459.—Best and most attractive Display of Honey in any form and of any year, staged on space 3ft. by 3ft., maximum height to be about 4ft. above the table. First Prize, £1 10s.; Second Prize, £1; Third Prize, 10s.

Class 460.—Exhibit of not less than 2lb. of Wax, the produce of the Exhibitor's Apiary. First Prize, 10s.; Second Prize, 7s. 6d.; Third Prize, 5s.

Class 461.—Exhibit of not less than 3lb. of Wax, the produce of the Exhibitor's Apiary; to be shown in shape, quality, and package suitable for the retail trade. First Prize, 10s.; Second Prize, 7s. 6d.; Third Prize, 5s.

Class 462.—Honey Vinegar, 1 quart. First Prize, 7s. 6d.; Second Prize, 5s.; Third Prize, Certificate of Merit.

Class 463.—Mead, 1 quart. First Prize, 7s. 6d.; Second Prize, 5s.; Third Prize, Certificate of Merit.

Class 464.—Exhibit of a Practical or Interesting Nature connected with Bee Culture, not mentioned in the foregoing Classes. First Prize, 10s.; Second Prize, Certificate of Merit; Third Prize, Certificate of Merit.

Class 465.—Exhibit of a Scientific Nature not mentioned in the foregoing Classes. First Prize, 10s.; Second Prize, Certificate of Merit; Third Prize, Certificate of Merit.

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Editorial, Notices, &c.

DEVON BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting of the Devon Bee-keepers' Association was held on January 24 at Exeter Guildhall, Lieut.-Colonel Walker presiding. The report, read by the hon. secretary (Mr. R. W. Furse), stated that, commencing with 271 members, 17 new members had joined during the year, making a total of 288. The accounts show the very satisfactory balance of £31 11s. 1d. In general Devon had suffered with all parts of the country from an exceedingly trying season. The exceptional weather experienced in the spring and early summer proved disastrous to the bees, and blighted all hopes of a prosperous season. In some cases the committee heard of a fair surplus, whilst in others of very little or none at all. This had tended to raise the price of honey, the demand being greater than the supply.

Sir Thos. Acland was re-elected president, and the vice-presidents were again asked to act, with the addition of the Hon. Lionel Walrond, M.P. The committee were re-elected. Mr. R. W. Furse, of Woodbury, consented to continue the duties of hon. secretary, and Miss Pittis, Uplyme, was re-elected hon. treasurer, both being cordially thanked for their past services.—(*Communicated.*)

DERBYSHIRE B.K.A.

ANNUAL MEETING.

The twenty-seventh annual general meeting of the above association was held at the Victoria Café, Derby, on Saturday, February 1. Mr. R. Giles occupied the chair, and was supported by Mr. G. Pallett, vice-chairman, the Hon. F. Strutt, J.P. (hon. treasurer), Messrs. S. Durose, W. Henson, J. Rowland, B. Abell, G. Hartley, D. Wilson, James Pearman, H. Hill, S. Powlson, G. Bakewell, J. Stone, E. Swain, W. P. Lewis-Smith, J. Winson, J. Amatt, J. T. Wood, T. Harrison, R. Moncrieff, C. Dowding, H. J. Morris, H. Smith, and R. H. Coltman (hon. sec.). There were also present Mrs. G. Hartley, Mrs. J. Pearman, Messrs. P. Scattergood (Stapleford), and George Hayes (hon. sec. Notts B.K.A.).

The minutes having been read and confirmed, the secretary read his annual report and statement of accounts, which showed that the association was still being well looked after, the assets (after allowing for the usual depreciation) now being £88 16s. 1d., as against £65 7s. 7d. at the end of December.

The chairman, in moving the adoption of the report and statement of accounts, said they were well satisfied with the position of the society, and he hoped the progress would still continue.

The secretary reported that Mr. D. Wilson had been successful in obtaining the B.B.K.A. third-class certificate for proficiency in bee-keeping. The experts' reports showed that during the spring tour they visited bee-keepers owning sixty-three skeps and 1,202 bar-frame hives, out of which fifteen were affected with foul brood.

A vote of thanks to the County Council and the Derbyshire Agricultural Society for their grants in aid of bee-keeping was passed unanimously, it being pointed out that the association could not continue the useful work on anything like the present scale but for the help thus given.

Election of Officers.—His Grace the Duke of Devonshire, K.G., president, and the vice-presidents were re-elected (excepting A. F. Hurt, Esq., deceased), with the addition of F. C. Hurt, Esq., and H. A. Chandos-Pole-Gell, Esq.; chairman, Mr. R. Giles; vice-chairman, Mr. G. Pallett; delegates to B.B.K.A., Messrs. G. Pallett and R. H. Coltman; hon. treasurer, the Hon. F. Strutt, J.P.; hon. auditors, Messrs. T. W. Jones and S. Powlson; committee re-elected with the addition of Mr. W. P. Lewis; lecturer, Mr. R. H. Coltman; hon. secretary, Mr. R. H. Coltman.

The lecture report and balance-sheet were received and adopted, the arrangements for the season's lectures being left in the hands of the secretary. Messrs. J. Rowland and S. Durose were re-appointed for the expert work in the middle and southern divisions respectively, the appointment for the northern division being left open owing to the absence of Miss La Mothe, who undertook the duties last year with remarkable success.

The membership now stands at 317, against 288 last year.

Mr. Moncrieff then read an interesting paper on the general working arrangements of the annual show, making suggestions for the future prize schedule. Mr. Moncrieff was thanked and asked to bring the matter forward at the show committee meeting.

A vote of thanks to the chairman concluded the meeting, when the members adjourned for the usual light refreshments, at the conclusion of which a prize drawing of useful bee-literature was held.

Mr. Geo. Hayes (hon. sec. Notts B.K.A.) then gave a most interesting lecture entitled "Bees and Flowers," which was greatly appreciated. Mr. Hayes being warmly thanked for his address.—R. H. Coltman, Secretary.

WORCESTERSHIRE B.K.A.

ANNUAL MEETING.

The annual meeting of the Worcestershire Bee-keepers' Association was held at the Church House, Worcester, on January 25. Canon H. W. Coventry was voted to the chair, and there were present the Rev. E. Davenport, Mrs. M. A. Firkins, Miss H. H. Turner, Miss M. Dudnam, Dr. Walpole Simmons, Messrs. J. P. Phillips (hon. secretary), A. R. Moreton (hon. treasurer), H. E. Oram, W. H. Hooper, H. C. Papworth, G. Richings, A. Firkins, P. Leigh, A. Moore, W. J. Smith, J. M. Wilkes, T. Rouse, H. Butler, W. H. Higley, T. Huband, F. Hughes, G. Bracken, and A. E. Strotton. Apologies were received from the Rev. J. B. Wilson, the Rev. G. F. Eyre, Messrs. A. Baldwin, M.P., R. Cadbury, W. H. Sims, C. H. Haynes, J. L. Brierley, and L. H. Bell.

The hon. secretary read the report of the committee, which stated that the present generation of bee-keepers had never experienced a season so disastrous to the honey-bee as the one just past, and probably those of their members whose memories covered half a century could not recall one to compare with it. The annual show was again held at Madresfield in August, Dr. Walpole Simmons being the judge. The comb-honey classes were smaller and poorer in quality than usual, and no medals were awarded. Extracted honey, however, was exhibited in greater quantity than was anticipated. Seven candidates for the third-class expert certificates were examined at Bransford and Spetchley by Dr. Walpole Simmons, and all of them were granted certificates. Five of these were members of the association. The committee hoped that the many members holding the third-class certificates would enter for the higher examinations of the B.B.K.A.

The treasurer reported the number of members to be 214, which was an increase, although the year was so bad. The balance-sheet showed that the members' subscriptions and a balance from last year of £17 15s. amounted to £66 10s. 8d. The expenditure was £55 3s. 8d., leaving a balance of £11 7s.

Both reports were adopted unanimously.

The election of a president in place of Lord Coventry, who was unable to again undertake that position, was left to the committee.

The vice-presidents were re-elected.

The hon. secretary, treasurer, secretary for the shows, librarian, and auditors were re-elected unanimously.

Messrs. T. Rouse and W. J. Smith were elected in place of Messrs. Brierley and Barnard on the committee.

It was agreed that the hon. secretary and treasurer be the representatives to the B.B.K.A.

Many of the members had tea, and afterwards informally discussed subjects appertaining to bee-keeping.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "*THE EDITORS *of the 'British Bee Journal,' 8, Henrietta-street, Corent Garden, London, W.C." All Business Communications relating to advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 8, Henrietta-street, Corent Garden, London, W.C."*

AMONG THE BEES.

THE PASSING WINTER.

[6992.] Right on to the end of January we have had practically no snow, yet the weather has been unsettled, with rough winds, keen frost, and a variable temperature. Bees have been much confined and had few thoroughly good flights. Never, perhaps, have I seen more dead thrown out, and very seldom, if ever, have there been so distinct and general signs of the makings of dysentery. It may be owing to the past inclement summer causing an overplus of pollen-gathering, not only in the regular store-cells of this substance, but also in the honey in the capped stores, and the spotting is uncommonly dark and malodorous. I have hopes, now that they have had a cleansing-flight, that future stores will be drawn from combs filled with healthy heather-honey free from any foreign matter. The large number of evicted dead is only what might be expected in a season when bees were confined for months; bees old in days if not in work, who in an average season would have died off in early autumn, lived on an inglorious life of idleness and decrepitude, to die and cumber the hive when winter's rigours chilled their vitality. Hence the dead thrown out are above the average, at least in this locality. We cannot yet hallo, as we are not out of the wood. February and generally March prove very stormy when the early part of the former month is fine:—

> When Candlemas is fine and fair,
> Half of the winter's to come and mair.

"*Automatic*" *Hiving.*—This is my way of hiving a swarm, driven bees, or a travelled lot of which I have any doubts.

I place a "W. B. C." body-box on the floor, empty; then I smartly throw all bees out of the travelling box or hiving skep right into this receptacle. Immediately I place a second body-box, with frames ready for the bees, above the first, with quilts, &c., in situ. Bees walk up and hive themselves on the combs, full sheets or starters. If there is any doubt of the bees feeling contented, the front entrance can be safely closed until next morning. When the process is carried out, as it should be, late in the evening, bees in almost any imaginable set of circumstances will rest in peace. The lower box can be quietly removed next morning. For many reasons, however, I prefer to see the bees march in. Bee-keeping would be robbed of one of its chief joys if I missed this interesting sight. I like first to see the queen to certify that such an important lady really exists. Then I can judge from her appearance somewhat of her pedigree, her probable egg-laying powers, and at least guess her age, approximately. I would have an interest in viewing the workers' vitality, and possibly diagnose their descent from their markings, while the chances are many to one that I could fairly gauge their temper. I would further prefer that the few hundred dead bodies should be left outside rather than placed inside to pollute the atmosphere. Many other reasons might be given for my preference.

Straight Combs.—If the sheet of foundation is placed in the centre of the brood-nest, between two flat-faced combs of sealed brood, ninety-nine combs out of hundred will be built out flat as a board, and thoroughly interchangeable in any hive where combs are decently built.

Give frames of starters to a nucleus lot, or a weak lot capable of covering, say, three or four frames, and the resulting combs will be all worker-cells, and all built true to scale, if a good flow is on or feeding is carried out systematically.

Casts or second swarms build all worker-comb, and the spacing is generally, if not always, simply perfection. The frames given may contain starters, quarter sheets, half sheets, or full sheets of foundation—results will be equally exact. Crowd a strong swarm on few frames and you get them all drawn out quickly and well fit to interchange anywhere—this every time.

In the same way give a 6-lb. to 8-lb. driven lot about eight frames, feed liberally, and keep them building and storing for two or three others, and I will be surprised if many of, say, thirty frames will be in any way irregular, corrugated, or bulgy.

Hive any sized swarm on a proportionate number of frames on starters or sheets, drawing forward each alternate metal end until combs are nearing completion, when the ends should be pressed home, and I am prepared to vouch you will have only worker-cells and smoothly built-out comb.

Close-ended frames are, I consider, a fertile source of badly built-out combs. Placed standing side by side they are often irregularly spaced in spite of every care when much manipulation goes on. Hanging frames *are* hung true unless when carelessly made up, or negligently replaced after the hive is examined.

Perhaps one of the most fertile causes producing defective combs is the neglect on hiving a swarm to see that the hive is placed perfectly level, otherwise, although combs may be built even and regular, yet they slant so much that they are not interchangeable. Another cause is supplying a colony with too many combs at one time. Given that the bees are spread over too large an area, the wonder would be if they should build other than irregular combs.

Thick Combs.—I am not satisfied that thick combs contain inferior honey. In fact, Mr. Woodley does not assert that they do. In the old skeps extra thick combs near the sides were recognised as supplying the very finest and choicest, and even the best matured, honey. For sections the thin comb *must* contain most wax both in the foundation and in the sealing—a grave fault in comb-honey.

Splendid Generosity.—The Rev. Mr. Lamb's extraordinary statement in advertisement in B.B.J. of January 9 that two out of every eighteen tons in $4\frac{1}{4}$ sections are "given away" fills me with astonishment. By what process of reasoning the reverend gentleman arrives at that conclusion is a puzzle to me. Deducting 1 oz. for the wood, I am confident 2,240 sections will *not* weigh more than 2,240 lb.—D. M. M., Banff.

DISASTROUS BEE-LOSSES.

[6993.] Referring to your reply to my letter *re* loss of bees last season (page 40), I quite agree with you that it is not wise to jump to conclusions with regard to bee-diseases before knowing details. I will therefore try to set before you how and when I first saw the effects of this disease. The bees in my apiary came through the winter of 1906-7 with seventeen stocked hives. But when examined in March I found four lots suffering from what I took to be dysentery, the bees dying off at a tremendous rate, and within a fortnight the four colonies affected were dead. These hives I cleaned out and got ready for swarms. The other thirteen stocks being very strong in bees, I began

to prepare for supering at the end of April, there being an abundance of cherry bloom around us at that time. I supered ten stocks, giving them drawn-out combs in shallow-frames, which the bees took possession of at once, and some of them were very soon half full of honey. In the second week of May, however, on reaching home for dinner, I learned from my wife that, it being a lovely day, she had been across to the bees to see if any of the hives were likely to swarm, and found the whole apiary in a state of uproar, just as if they were all going to swarm at once. The alighting-boards were black with bees, which were creeping all over the hives. I went over to see what it all meant, and found the grass in front of hives simply swarming with them. It then began to dawn upon me that there was something seriously wrong. The mischief continued for several days. When it was nice and warm they would creep up the posts in front of the hives and gather together in clusters on top. Some of them appeared to have swollen greatly, and on pressing the abdomen some yellowish stuff would come away. The bees also crept up the blades of grass and sat upon the top, from which they kept on trying to fly, but only fell to the ground, and made little hops from blade to blade. About this time several of the hives tried to swarm. Picture to yourself a swarm about as big as a quart measure hanging upon a bough close by, with the bulk of the bees crawling all over the hive-front—a black mass quite unable to fly—you will then understand how they appeared every time they made an effort to swarm. At the beginning of June I removed some of the supers, and on examining the frames often found as many as three frames filled with sealed brood quite neglected. When the bees of some stocks had dwindled to a mere handful, I carefully searched for the queen, and, strange to say, she was always among the bees, and would remain to the last. At the beginning of June I received a swarm that had been ordered early. This was placed on full sheets of foundation in a clean hive, and worked splendidly. Within a fortnight the frames were solid with honey and brood, yet two weeks afterwards there wasn't a living bee left in the hive! Notwithstanding this, one colony standing in another part of my apiary went on gathering honey as if nothing at all was wrong. They filled and sealed a crate of shallow-frames, from which I took all the honey I extracted last year. This colony also is now dead, the last bees dying about Christmas. The two hives mentioned in my last letter as appearing strong in the autumn and likely to come through the winter all right are now much reduced in numbers, and will doubtless die before long. I hope you will excuse me for writing all this, but I could add much more if space allowed. I send name, and sign as before—H. S., Herts.

[Judging from the details given above, we are led to the conclusion that the disasters our correspondent describes as having occurred in his apiary last year are due to the disease known on the Continent as the May pest (*mal de mai*), known by Germans as *Maikrankheit*. This terribly fatal malady resembles the mysterious disease prevalent in the Isle of Wight in 1906, and is fully described and illustrated on pages 186 to 190 of the "Guide Book," all that can be gathered from the investigations of the most eminent scientists in France and Germany from the year 1865 to the present day appearing therein. The symptoms are in many respects exactly similar to those given by our correspondent. One passage may be quoted from page 187 of the "Guide Book" as illustrative of this, which reads as follows:—"As in paralysis, bees will be seen coming from the hive and running about the alighting-board, from which they drop to the ground unable to fly. They crawl about the ground, some ascending blades of grass to gain an eminence from which to take wing, but in every attempt fall to the ground again. They will also be seen towards evening gathering in clusters for warmth, but most of them die during the night from exposure; any survivors usually succumb next day."—Eds.]

ROSS-SHIRE NOTES.

TALL SECTIONS.

[6994.] Mr. Lamb's contribution in last week's issue is interesting as an exposition of the latest developments in the "section-reform" crusade.

We must all admit that in pursuit of his ideal the reverend gentleman does not spare himself any more than he spared others during his initial advocacy of reform in days long since gone by.

My personal experience of the tall section has been limited so far, and naturally took the line of least resistance, meaning 5 in. by 4¼ in. dimensions, which is readily applicable to existing fixtures. I consider this latter a most important point, and one likely to induce many to give the new variety at least a trial. It is, to say the least, regrettable that this valuable feature should be lost for no valid reason. The matter of light weight is, I fancy, apparent only in such seasons as 1907, and, even if real, could be remedied without alteration of outside dimensions.

This drives us to the conclusion that the unfortunate section must needs be

radically altered merely to make it fit more snugly into the holders. Consider this in the light of a proposal to amend the standard frame with the view of its fitting better an improved hive. That is putting the cart before the horse with a vengeance. I should like to know what proportion of bee-keepers producing comb-honey on a commercial scale make use of section-holders in their supers? Admitting that the holders offer certain advantages, the great majority find a plain slatted rack all that can be desired as regards economy, simplicity, and efficiency.

To the many with whom prime cost is a consideration, expensive elaborate supers are out of the question, and there is another way of looking at it. The $4\frac{1}{4}$ in. by $4\frac{1}{4}$ in. section has been long on the market, but its users are not yet agreed as to the most suitable width, such different dimensions as $1\frac{7}{8}$ in., $1\frac{15}{16}$ in., and 2 in. being in general use. The simple rack very accommodatingly takes all or any of the sizes, whereas on the other principle each variety would require its own special holder. The disadvantages of the latter method are even more strongly emphasised in the case of the tall section.

Its present dimensions all over are painfully indefinite; experience may suggest even further modifications, necessitating the "scrapping" of valuable plant. While the outlook remains so uncertain, and until we have some guarantee that the new departure has really passed the experimental stage, it would seen advisable to proceed on the simplest and most adaptable lines, avoiding meantime at least more elaborate appliances, lest the cause be lost.

Queen Supersedure.—In reply to the inquiry (page 46) *re* queen-clipping, the operation is in every case carried out during May or early June. This, of course, includes young queens introduced during the previous autumn.

Instead of second clipping causing loss of queens, it is quite the other way about. I find that when let off too easily the queen sometimes manages to accompany the flying swarm, not for any distance, yet quite enough to prevent her safe return. But if fully half the wing is cut off her majesty cannot fly at all, and, after tumbling off the alighting-board, is only too glad to scamper back along with the returning swarm. Of course, this only applies to properly-designed hives, with convenient entrances.

With the queen and swarm safely secured, further trouble is avoided by removing nearly all the brood, which can be placed above any stock being run for extracted honey. Should the queen, however, be lost in the first instance, there is some risk of the colony swarming itself to death when the princesses leave their cells. Under such circumstances it would be advisable to remove every royal cell, and join the stock to a nucleus with a young fertile queen. As a rule, three seasons' strenuous work is all we need expect from the best of queens. I had ample proof of this last spring, when a queen experimentally held over for a fourth season turned out a worthless breeder of drones, and that after being extra prolific during the previous autumn. This was clearly a case of exhaustion through age and work. There was no room for lurking doubts as to the drone-breeder being a late-reared virgin; the clipped wings gave unerring evidence to the contrary.

This brings up the subject of identification. A written record is of little use unless supplemented by some form of marking the subjects under observation.

Suppose you introduce a young queen to a certain hive, at the same time jotting down all particulars. You go by the book, and in course of time it tells that the queen is old and must be replaced. But how are you to know that this is the one inserted on such a date? The colony may have re-queened itself unknown to you, and there is thus a possibility of your destroying a fine queen just in her prime. Her majesty seems vigorous, and is quite prolific. So you decide to let well alone, and allow her to head the colony over winter, only to find out too late that the book was right, after all. There is really no occasion for taking any such risks. Say you introduced a young queen in September, 1907. Clip off half her wing during the coming May, and part of the remainder at the corresponding date next year. Early in 1910 examine her hive, gently moving aside the outer combs until the sight of compact worker-brood shows that all is well. Then if the later more thorough examination reveals the old lady still there and doing well, let her alone. But be ready with a young fertile queen for autumn insertion, as assuredly, if the inmates of the hive neglect this matter, the bee-master, for his own sake and for theirs, must take steps to save a community that otherwise is doomed to die.—J. M. Ellis, Ussie Valley, February 1.

SWARM-CATCHERS.

[6995.] Your correspondent Mr. O. Hill (6982, page 38) considers that a really satisfactory swarm-catcher would be a great boon. I quite agree with him, but fail to see how it can be worked feasibly. Supposing our friend has, say, twenty strong stocks at the beginning of the swarming season, and, as he says, keeps his hives some distance from home and has little time to watch them when most likely to swarm; supposing also that his

bees happen to have got the swarming fever at the time, I would like to ask: How many swarm-catchers would he require to make himself quite safe from loss? Will he want one for each hive? I know nothing about the cost of swarm-catchers, and have still my doubts as to their efficacy. I also think that as this device has been before bee-keepers for ten or fifteen years past, if any practical advantage was gained from its use it would have been more strongly recommended in the B.B.J. than it has been so far. I send name, and sign—G. C., Sheffield, January 28.

[It goes without saying that if the loss of swarms could be prevented by any effective appliance simple in construction and reasonable in price, it would be welcomed by a considerable number of our readers, and by ourselves in particular. It is also certain that some of the devices brought to notice are used with success, notably the one illustrated on pages 22 and 23 of the "Guide Book," to which we referred some little time ago. All these appliances, however, require the exercise of intelligence in using them, together with some experience of bees and their ways. Failing this, they are uncertain in their action, and apt to disgust those who try to use them. Again, although devices for self-hiving, swarm-prevention, swarm-catching, &c., have been carefully thought out by experienced bee-keepers, and theoretically made perfect, most of them have proved to fail completely in practice.

The device illustrated in the BEE JOURNAL of January 9 (page 18) was designed by one of the most experienced bee-keepers of his day, the late Mr. J. M. Hooker, and in theory was about perfect, but practically it was a failure, and it soon dropped out of use.—EDS.]

[6996.] Replying to the editorial footnote to my remarks on above subject (6982, page 38), may I be allowed to say I was cognisant of the fact that there are already swarm-catchers on the market, but with every bee-keeper I have met they seem out of favour. Why? This is what I cannot understand, if, as you say, they answer the purpose well, because there must be quite an army of bee-men who for days together cannot give any time to their hives or bees, and in consequence are unable always to prevent the issue of a natural swarm. For example, take an outlying apiary, and a hive from which all queen-cells are removed, but the bees of which at once commence a new set, and before being visited again swarm, with all the attendant risks of loss. In comparison with this, what a satisfaction to use an appliance that could be attached and left on during the swarming season, and after an absence to return and find the "catchers" occupied and work well advanced on the few frames supplied, which only require removing to an empty hive. For work and energy I have found natural swarms far better than divided stocks.—OSBORNE HILL, Worcester.

[If our correspondent will do us the favour to read the editorial footnote referred to again, he will find we did not say that the various devices illustrated in our pages "answered the purpose well." The only one to which we applied this term is the "Brice" swarm-catcher, and the effectiveness of this—when used properly—is clearly shown in the illustration from Nature in the "Guide Book."—EDS.]

SWARM-CATCHERS AND PACKING HONEY.

[6997.] Now that the subject of swarm-catchers is to the fore I should like to say a word with regard to this particular bee-appliance. First, then, let me say I became a bee-keeper on the old-fashioned plan in the early sixties, and since 1897 have kept them in frame-hives on the modern system to the extent of over thirty stocks. I have been a "hewer of wood" from my youth upwards, working among and managing every description of sawing, planing, and wood-turning machinery, and in my small way have designed wood-working machines.

In connection with bee-keeping I am a "swarm-catcher" enthusiast. My apiary is some little distance from my home, which makes management at swarming-time more difficult than if my bees were on the spot. When your correspondent Mr. H. Edwards, a few years ago, described in the B.B.J. the great success he had attained with his "swarm-catcher" and advertised it for sale I wrote out an order for one, but before it was posted a letter appeared from Mr. Edwards in the B.B.J. to say that as he was going on an expert tour he could not supply any more, so from his description and the information I gathered from other sources, together with my own experience, I made and put into operation that season twenty-two swarm-catchers, and the following season fourteen. I had a certain amount of success, but it could not be called *satisfactory* success, as, of course, the great drawback to swarm-catchers lies in man's inability to make a trap which will catch the queen without stopping the drones. This drawback makes it imperative that the bee-keeper should remove the drones (dead and otherwise) from the floor-board of the swarm-catcher each evening, and at the same time make sure that the queen is not amongst them; and this would occupy considerable time.

Now I must endeavour to particularise my successes and failures. On four occasions I found the queen crawling about among the dead and live drones on the floor-board of the swarm-catcher. Twice I had a small quantity of worker-bees—about as many as covered a frame and a half—along with the queen on the combs; and once I had a queenless swarm on the hedge close by, and the queen in the swarm-catcher with the drones.

Packing Honey.—Now allow me to say a few words on packing honey-jars. When I read the correspondence (6977, page 36) I felt a desire to enlighten your correspondent "Bee-man" and his friend on the matter. The fact of shavings being used, and there being room for the jars to lie on their sides, makes it self-evident that the exhibits had been sent away from Scotland by an inexperienced packer. I have sent large quantities of jars both by passenger and goods train packed in the following manner without having a single one broken:—I make a box about ¼ in. deeper than the height of the jars, the size of box varying according to the quantity to be sent. Then I get some thin boards ⅛ in. thick and as broad as the jars are deep; mark them at distances ¼ in. more than the diameter of the jars, then, taking a handful of the boards together, with a circular-saw I make a cut the gauge of the thin boards at every mark halfway across them. I then fit them into each other at the saw-cut, the result being a quantity of square divisions, each a little larger than the diameter of the jars. Next I line the box with paper and put in the frame which I have constructed, and which ought to exactly fit the box. Now I roll paper round each jar until it fits tightly the divisions of the box, and place a few more sheets of paper above them, screw on the lid, and when the exhibit reaches the show each jar can be lifted out with the finger and thumb, and the packing will remain intact. I have also sent eggs in perfect safety per parcel post packed in the same way.—H. H., Co. Cavan.

[We have no doubt whatever with regard to the efficiency of the box and fittings our correspondent describes above. It is, in fact, the "packing-crate for honey" illustrated on page 91 of the "Guide Book." This box was designed by ourselves about fifteen years ago for the express purpose of meeting the want of an efficient package for show purposes. Nor do we think it can be excelled, and it is largely used by experienced exhibitors at the principal shows. So far as meeting the wants of those who stage exhibits is concerned, one who has, it is safe to say, done more work in this line than any man in the country assured us that "the box in question needs no improvement when the lid is fastened by a couple of screws in front." The box shown has been copied into other text-books since it first appeared in the "Guide Book," and though we do not complain, it is only fair to make known its source.—EDS.]

BEE-KEEPING IN MEXICO.

INTEREST IN BRITISH BOOKS AND METHODS.

[6998.] On my return from a journey among the mines I found your postcard, together with a copy of your new "Guide Book" and the two little pamphlets "Honey" and "Mead," awaiting me, for which please accept my best thanks.

With my compliments to our Editors, I desire to say that I felt very pleased with their flattering opinion of the sample of honey I sent, and am sorry the bees with it arrived so mouldy that they could not be classified or even described beyond saying that "they appeared small." With regard to this I would say: "Might not they have shrunk?" I kept some until they were dried up, and found that they had diminished in size. I also notice that they have to squeeze themselves through the slots in an "Alley" drone-trap, and so conclude they must be of an average size.

Of your new "Guide Book" I cannot speak too highly. It is clearly printed on good paper, and the text is written in good, plain English. Altogether it reflects very great credit on all concerned in getting it up. The whole of the illustrations are extremely good.

For the two pamphlets I thank you very much, and having added to my stocks of bees, I have no doubt that the recipes in the one and the way to make mead in the other will enable me to dispose of my honey, and if you will kindly enlighten me on the following points I shall esteem it a great favour:—1. I see in the making of mead brewers' yeast is used. As there is no brewery within more than a hundred leagues of this place, what substitute do you recommend? 2. In order to turn the wax to account I intend trying to dispose of it as wax-candles; but to be orthodox they should be white, whereas my wax is bright yellow—lemon-colour. If possible, please send me a recipe for turning it white. Sulphuric acid is used, I know, but how applied and in what proportion I do not know, and for sun-bleaching I am afraid the apparatus would be too expensive. 3. Please mention cost and weight of the simplest honey-extractor. I am at a terrible disadvantage here for want of one, and any assistance you may favour me with will be gratefully received, as I know of no one to whom I can apply. 4. Under the heading "Spring Feed-

ing" in "Guide Book" (page 109) I see it recommended to uncap or bruise some of the sealed honey in the hive every few days for the bees to help themselves. Is this because the bees will not readily uncap the honey to get what they require?

Accept my best thanks in advance for your kind replies to my inquiries, and wishing a very happy New Year to yourselves and all readers.—FRANK W. BREACH, Chinipas, Mexico, December 28.

[1. Many who use only the washings of combs taken from skeps for making mead do not put in any other substance for causing fermentation, the pollen in the combs being sufficient for the purpose. 2. For such a boiling as you are likely to make a table-spoonful of sulphuric acid would remove most of the yellow colour from good wax, but very dark wax cannot be made white in this way. 3. A good honey-extractor can be had in England for 15s. or 20s., and would weigh from 20 lb. to 25 lb. We cannot tell the cost of transit to Mexico, but its shape and size may be gathered from the illustrations in appliance-makers' catalogues. 4. Yes.—EDS.]

SECURING UNIFORM COMBS.

[6999.] During the last few weeks a good deal has appeared in your pages on this subject, but since Mr. Ellis has alluded to "thick and thin combs" in his "Bee-notes from Ross-shire" (6979, page 37), I should like to say a word in reply. Mr. Ellis says:—"The subject of securing even brood-combs is a side-issue," and while admitting that the introduction of new frames during the honey-flow makes for confusion, he qualifies this admission by asking, "Who wants to extend the brood-nest at that time?" As this question is apparently intended for myself, my answer is, "*I* do sometimes." I want to do it when stocks are being built up from small beginnings—nucleus lots, driven bees, &c. It is also desirable when the brood-nest has been made too small by taking out combs for purposes too numerous to mention; and unless this extension takes place during the honey-flow it will have to be done during a sugar-flow. Mr. Ellis states that "bulging combs can always be put right in the extractor," knowing all the time that many bee-keepers do not possess that rather costly appliance. Besides, prevention is better than cure. Again, surely Mr. Ellis must know that uniform combs cannot be produced in certain circumstances unless the natural instinct of the bee is restricted.

Since I wrote last on this subject I have procured a copy of the new "Guide Book." This edition is a great improvement on the last. It is beautifully got up, the illustrations being well done, and some of them most interesting. The one on page 153 appeals strongly to me, it illustrates so forcibly what happens when foundation is inserted between unsealed combs, which, as I have said, is the worst cause of producing unshapely combs. It seems to be admitted that some means should be adopted to prevent the bees from drawing out the combs as shown in the illustration.

I notice that your correspondent "Cotswold" (6976, page 36) describes his method of securing straight combs, and claims that he gets over the difficulty by following it out. This reminds me of a conversation I had with our friend "D. M. M." on the same subject. He also suggested drawing the adjoining combs nearer the foundation for a time, but this could not be done with either broad-shouldered or close-ended frames. Supposing, however, that it is practicable to bring adjoining combs close to the foundation, the bees must have room to draw the latter out, so that, in my opinion, the same result will be arrived at as would be got by leaving the frames in their normal position.

Narrow Sections (6985, page 42).—I see Mr. Lamb has been induced to write again on the above subject, and I expect his old opponents will be buckling on their armour again for reply. As a result of the last controversy I bade good-bye to the old $4\frac{1}{4}$ in. by $4\frac{1}{4}$ in. section, and adopted what I understood to be the right size of tall section to give 1 lb. of honey while causing the least alteration in the existing racks—viz., 5 in. by $4\frac{1}{4}$ in. by $1\frac{3}{8}$ in. These, if properly filled, will weigh 16 oz. I often get them weighing 18 oz. The section Mr. Lamb uses $\frac{1}{4}$ in. larger two ways would weigh at least another two ounces. This is all very well if the sections are intended for one's own table, but I fail to see any fun in supplying these to the public unless paid for overweight.

Mr. Lamb's size would also require a rack $\frac{3}{4}$ in. broader and $1\frac{3}{4}$ in. longer than what I require for mine; so that were I to adopt his size it would render my fifty odd racks (with their celluloid windows) useless. I have also tried these tall sections in frames, and have got them plump—too much so for my taste. I don't consider this arrangement worth the extra bother it entails. Again, Mr. Lamb's section has the top and bottom $\frac{1}{4}$ in. narrower than the sides. This being so, I am inclined to think that it would not compare favourably in appearance as a finished article with our plain, equal-all-round, unsplit-top 5 in. by $4\frac{1}{4}$ in. by $1\frac{3}{8}$ in. section.—ALEXANDER REID, Balloan, Muir-of-Ord, Ross-shire, February 1.

WEATHER REPORT.

WESTBOURNE, SUSSEX,
January, 1908.

Rainfall, 1·27 in.	Minimum on grass, 11° on 12th.
Heaviest fall, ·98 in. on 7th.	Frosty nights, 15.
Rain fell on 12 days.	Mean maximum, 42·3.
Below average, 1·32 in	Mean minimum, 32·1.
Sunshine, 75·3 hours.	Mean temperature, 37·2.
Brightest day, 29th, 6·5 hours.	Below average, ·2.
Sunless days, 9.	Maximum barometer, 30·553 on 21st.
Above average, 7 hrs.	Minimum barometer, 29·222 on 8th.
Maximum temperature, 53° on 27th.	
Minimum temperature, 16° on 6th.	L. B. BIRKETT.

JANUARY RAINFALL.

Total fall, 1.29 in.

Heaviest fall in 24 hours, .43 in. on 28th.

Rain fell on 16 days.

W. HEAD, Brilley, Herefordshire.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Straight Combs (page 18).—"A. H." has put his finger upon a weak spot in amateur frame-making where he refers to the possibility of twist in the frame. This fault is often present, and may be detected by sighting across the top and bottom bars simultaneously. It may be corrected by twisting slightly to excess in the opposite direction, and by nailing whilst being held. But frames devoid of "twist" will not of necessity be correctly spaced at the bottom. Look under your hive-bodies if you desire to be convinced. If the frame hang ever so little more upon one edge of the top-bar, the bottom will swing over in that direction, and absolute truth of all the parts, including the runner, is essential, for such an error magnifies itself in the depth of the frame. For this and other reasons, not the least of which is the prevention of comb-swing when hives are travelling, I am in favour of end-bar spacing.

Wiring Frames (page 18).—Has not "A. H." exaggerated the time necessary to merely wire a dozen frames in expert hands? I use, at present, four horizontal wires in a standard frame, and the time taken for the whole of the work, including embedding and waxing the foundation, is just over an hour. The end-bars are drilled in a handy jig before nailing, and the frames, which are not of the dovetailed variety, are also assembled in a jig. Each operation is completed for the whole of the parts at one time, which greatly expedites the work.

Wax-rendering (page 22).—It may be quicker to render the combs under steam heat, but the quality of the wax is not so good. Has anyone yet had experience of the new extractor by A. C. Miller? May we have a report from some user?

Bee-temper (page 22).—It is doubtful if the disuse of the brimstone-pit can have greatly affected this matter; at least, re-queening is equally the resort of the modern apiarist who desires to rid himself of cross stock. Experience shows, too, that, in spite of the repressive influence of the hellish pit, the native race still retains some honey-gathering instincts! And, disease apart, I am not at all sure that for many cottagers who fail to master bar-frame methods the skep is not the most paying hive. I believe this to be the case in such a poor district as this. My knees knock as I utter this awful heresy!

Co-operation (page 22).—Where is the happy district in which all bee-keepers agree? Where live those agreeable men who possess drone-traps, and mutually agree to weed out undesirable stock? Lead us to this Utopia! Ay, for all our boasted brotherhood, we fail to agree even as our weaker brethren without the law. Imagined infringements of our personal right to do wrong still prevent us from joining hands in a ring which may not be blown apart by the first breath of jealousy.

Show-boxes (page 24).—Will "one screw in each box safely hold the lid down"? Possibly it may if the lid be fitted with hinges too! But the objection to screws is that they fail to hold after a few journeys, and if used at all would be better placed horizontally through a hasp plate. Better still if there were a corresponding plate on the box tapped with a machine thread. But why not a padlock, and the key sent to the secretary, looped to a large label, clearly marked on the reverse with particulars of the exhibit, a similar label for return being placed inside the lid? If the key were not lost the secretary's labours would be much lightened, and even if lost the removal of two screws would release the hasp plate.

Outside Observation (page 34).—Is it not possible, friend "D. M. M.," that a large quantity of cappings on the floor-board may mean that the stores are partially granulated?

Packing Exhibits (pages 36 and 37).—Most of this trouble appears to be with extracted honey in jars—surely the easiest exhibit to pack. Exhibitors overlook the fact that even an expert may be obliged to have assistance where there is much to be done, and that mistakes may occur as a result. Brief and clear instructions to the packer should be inside the lid. Shavings are a nuisance

and a mistake. Top and bottom of box should have a false tray covering permanent material of an elastic nature. The interior should contain a proper bin or bottle-spacing device. Which is the cheaper, a proper outfit or the loss and trial due to inadequate fixtures?

Queries and Replies.

[3657.] *Transferring Bees from Skeps to Frame-hives.*—As a constant reader of your valuable and interesting journal may I ask you to give me a little helpful counsel on the best method of driving and transferring five skeps of bees into frame-hives? I bought the bees last November at a sale, and could find out nothing respecting the age of queens, or, indeed, any other information. They seem healthy. I therefore ask:—1. When should the work be started? 2. Would it do to unite two lots in one frame-hive? (I might mention that all bees were flying freely from all the skeps a few days ago.) 3. In what way would you advise me to perform the driving? Any information you can give me will be much appreciated. Name sent for reference.—BOKHARA, Kent.

REPLY.—We may sum up the queries enumerated above by advising you not to drive the bees from the skeps at all. It is clear that you are inexperienced at such work, and the probability is that the result of a first attempt on your part would not be satisfactory. Your best and safest course will be to allow the bees to transfer themselves to the frame-hives, and by procuring a copy of the "Guide Book" (new edition) you will find full details of how the work is done, with an illustration from photo of a skep placed in position above a frame-hive in order that the bees of the skep may transfer themselves.

[3658.] *Hiving Swarms on Old Stand.*—Will you kindly answer the following questions in the next issue of B.B.J.? 1. Supposing a hive throws off a swarm which is hived on the old stand, and it is proposed to unite the parent stock with a nucleus containing a fertile queen on the stand of the latter, is it necessary to cut out the queen-cells to prevent the queen from swarming with flying bees belonging to the nucleus, or will the bees destroy them? 2. Would you feed the united stock? If so, for how long in good weather, and what daily amount would you give them? 3. Is there any risk of a queen which has been hatched in a nucleus returning to it if introduced to a neighbouring stock? 4. In hiving a swarm on its old stand, I propose to give it two frames of brood from the parent stock at each side, with three starters in the centre, making seven frames in all, of course replacing the supers. Do you approve of this?—A DUMFRIESSHIRE BEE-KEEPER, Thornhill, January 27.

REPLY.—1. If the queen now heading the nucleus colony is intended to remain as the mother-bee of the stock, we should certainly cut out all queen-cells from the parent hive. 2. Yes, if any scarcity of stores is feared; not otherwise. 3. No. 4. We should never dream of giving four frames of brood from the parent hive to a natural swarm when hiving the latter on its old stand. What do you propose to do with the parent stock after the latter has been deprived of the bulk of its bees, its queen, and four frames of brood? And where do you propose to move it to?

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

J. WAYMAN.—*Exhibiting at Shows.*—We cannot understand your complaint about rail charges for sending a hive to the "Royal" Show at Lincoln last year. There is no entry for hives bearing your name in the catalogue. Please send a line explanatory of this.

W. J. G. (Carmarthen).—*Dealing with Incipient Foul Brood.*—1. If treated as directed in the "Guide Book" (which you have), and slightly spraying the few affected cells with soluble phenyle, as you suggest, the only other precaution needed is to watch the brood carefully, examining the combs about once a week to see if the sealed brood is hatching out regularly and the uncapped larvæ maintain their healthy shape and normal colour. If the symptoms become worse, and plainly indicate that the disease is spreading, the stock should either be destroyed outright or the bees got off the combs and dealt with as a swarm as soon as the season for swarms is reached. This latter course would mean destroying the whole of the combs and their contents. 2. The empty store-combs used on the affected stocks will only need to be sprayed as directed before using again on any hive.

BEE-MAN (Scotland).—*Packing Honey for Shows.*—Much obliged for your note. Now that we have the show in question definitely named, we will go into the matter thoroughly, and hope to put the blame on the right shoulders. No time will be lost in doing this.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

SEVERAL NEW HIVES for sale, or exchange for good incubator or gun, &c.—SWAN, 43, Harwich-road, Colchester. e 20

EXPERT SPRING TOUR.—Gentleman, holding certificate and experienced, would undertake three weeks' tour, beginning middle of April.—Address, "MAGISTER," "B.B.J." Office. e 11

HEALTHY STOCK OF BEES, Taylor's Hybrids, in new, well-made Bar-Frame Hive, with Supers complete; also Taylor's No. 17 Extractor, used once, owner going abroad, £3, bargain.—A. SIMPSON, Emneth Hungate, Wisbech. e 16

EXPERT requires loan £100, to increase Apiary, 10 per cent. interest; security, or would share business.—"SECURITY," care of "Bee Journal." e 15

EGGS, White Orpingtons, Cooks' strain, splendid winter layers and table birds, 3s. per sitting.—RICHD. DUTTON, Terling, Essex. d 88

PURE EXTRACTED HONEY, 2 lb. and 3 lb. glass jars, 8d. lb.; Run Honey, 3 lb. glass jars, 7d. lb. What offers quantity?—HALLS, Lilley's Farm, Withersfield, Newmarket. e 14

6 STRONG STOCKS, in "W. B. C." Hives, what offers?—SHUM, Shortwood, Nailsworth, Glos. e 13

18 NOMINAL LB. JARS excellent 1907 Clover Honey, for 15s. 3d., carriage forward.—THOMAS, Pwllerochan Rectory, Pembroke. e 12

FOR SALE, 20 good second-hand Bar-Frame Hives, used one or two seasons, 6s. each, as good as new, fitted with 10 Standard Frames and Section Rack, some Redshaw's pattern. Correspondence invited.—HARRISON, Farm, Middleton, Pickering. e 10

2 STRAW SKEPS OF BEES FOR SALE, also two "W. B. C." Hives, empty.—J. WAYMAN, Cottenham, Cambridge. e 19

HIVES, genuine "W. B. C.," painted, 15s.; others from 6s. 6d.; don't delay, write now; ⅞ Top-Bar Frames, 1s. 6d. doz.; Section Racks, 1s. 3d. Numerous testimonials.—SOUTHERN BEE-HIVE WORKS, Hellingly, Sussex. e 17

SHOWMEN, try Kent's "Verilite" bottle box. Price until March 1, 1s. 10d., usual price 2s. 6d.; postage 6d. Approval.—APPLIANCE WORKS, Dorchester. e 18

BEESWAX, very fine quality, light coloured and clean, entirely from cappings, about 150 lb., 2s. lb.; sample, 3d., post free.—C. DUNN-GARDNER, Fordham Abbey, near Soham. e 4

BEES FOR SALE, in Bar-Frame Hives, also Spare Hives and other appliances.—H. CLEMENTS, River, Dover. e 8

ADVERTISERS wish to hear of someone with £100 to invest, to develop Bee and Poultry business.—Particulars, H. B., care of "B. B. J." d 98

WHITE ORPINGTON and BLACK MINORCA, grand typical birds, specially bred for laying and fed to produce strong healthy chicks. Numerous testimonials prove we give satisfaction. Eggs, 15 3s. 6d., 50 10s.; day-old chicks, 6s. doz., 50 £1; carefully packed.—J. HOUSEHAM, Huttoft, Alford, Lincs. e 9

"W.B.C." HIVES, painted, complete, from 13s. 6d. List free.—PRITCHARD, Carterton, Clanfield, Oxon. e 2

CHAPMAN HONEY PLANTS.—Extra Strong Plants, to blossom 1908, 12 3s., 6 1s. 9d., package free; Seed, 6d. and 1s.—JOHN P. PHILLIPS, Spetchley, Worcester. e 34

BOKHARA CLOVER, Chapman Honey Plant, Limnanthes Seeds, each 6d. packet, 1s. 4d. 3, carriage paid, splendid Bee Forage.—BAYLEY, Fair View Apiary, Sellindge, Hythe, Kent. d 84

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

Special Prepaid Advertisements.—*Continued.*

PURE SCOTCH HEATHER HONEY, at 1s. 3d. per lb., f.o.r.; sample, 3d.—R. STEELE, Wormit Works, Dundee.

W. P. MEADOWS,

SYSTON, near LEICESTER.

Telegrams: "MEADOWS, SYSTON." Nat. Tele. 2 X

ROYAL SHOW, LINCOLN, 1907.

NOTE AGAIN to the FRONT. 2 FIRST 2 SECOND 2 THIRD **PRIZES**

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HIVES, &c., IN FLAT.

Most Accurate, Best Value, Best Work.

Joinery work of any description quoted for. Wood for carving. Work made up. Lantern slides, sale or hire. Catalogue free.

W. R. GARNER,

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FOUNDATION.

Dealers and Bee-keepers will see the above trade marks stamped on every original package of Root Weed, and on slips within every such package, from the 1 lb. to the 50 lb. size.

"WEED" excels all other Foundations in pureness, with impossibility to communicate foul brood germs, toughness, and consequent cheapness, facility of handling at all times without breakage, and acceptance by the bees. These claims are now copied by venders of other imported foundations which, not being made on a Weed machine, cannot possess them, and these copies but prove how such qualifications are esteemed.

The A. I. Root Co. request dealers to send in their orders for Bee goods. Those ordered in early autumn are now on the way over, and orders sent in this month will be in time for a second import to London about being made up.

"WEED" Foundation, Sections, Frames, and Separators are now in Stores at London and Liverpool.

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The
British Bee Journal
AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &C., AND W. BROUGHTON CARR.

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

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Editorial, Notices, &c.

THE ISLE OF WIGHT BEE-TROUBLE.

The question of rendering help to bee-keepers in the Isle of Wight who have had the misfortune to lose their bees has again been brought to notice through a paragraph in the *Daily Mail* from the pen of Mr. J. Silver, Croydon, whose name is well known to B.B.J. readers as having taken an active interest in the question. The natural inference is that Mr. Silver does not want the subject to drop out of notice without some effort being made to re-start those unfortunate bee-keepers whose apiaries have been decimated through the calamity, and he now sends us a statement giving the present position of affairs and the action he suggests as being suitable to the occasion.

Mr. Silver is no doubt a man of action; he means to go ahead and do something; but, as we regard it, the case is essentially one for "going slow" until the ground is properly cleared for taking action on sound business lines, such as all level-headed men would approve of. The statement before us shows that the donations received or promised in aid of the fund are as follow:—

RECEIVED.

Mr. E. H. Taylor, combs in frames.
Mr. Owen Browning, 6 lb. driven bees.
"Hants Bee," driven bees.

PROMISED.

British Bee Journal, £5.
Colonel H. J. O. Walker, £1 1s.
Mr. L. S. Crawshaw, £1 1s.
Mr. J. C. Lake, stocks of bees.
Mr. D. Hancox, one swarm.
Mr. H. Davidson, one swarm.
"Hants Bee," one swarm.

We should have been glad to see a much more liberal response than the above, which falls far short—both in cash and kind—of what one would expect from the description of the disasters to bee-keepers made in the Isle of Wight papers and elsewhere. Moreover, it is unaccountable to us why the hon. secretary of the Hants and Isle of Wight B.K.A. or Mr. H. M. Cooper, local hon. secretary for his district, appear unwilling to take any part in the movement for rendering help. We gather this much from Mr. Silver, who writes:—"Both Mr. E. H. Bellairs, hon. secretary, Isle of Wight B.K.A., and Mr. H. M. Cooper, hon. secretary for his district, say that there is so much room for possible jealousy or friction in their handling any distribution of swarms or stocks that they much prefer to leave the selection and distribution to me."

Now, while not desiring to minimise Mr. Silver's good intentions, or his courage in undertaking single-handed a very onerous task, we must express our entire disagreement with the proposed arrangement. In fact, it is, to our mind, certain to end in disappointment and dissatisfaction to donors and recipients alike. Knowing that both Colonel Walker and Mr. Crawshaw are not only interested in the matter but genuinely anxious to assist the ruined bee-keepers, we have taken the trouble to ascertain their views on the matter as it now stands, and are glad to find they entirely concur with our own, as will be seen by the following letters. Colonel Walker writes:—

"My subscription to the Isle of Wight Fund was promised on the condition that the fund should be administered by a small committee on which the Hants and Isle of Wight B.K.A. should be actively represented. I admire Mr. Silver's energy, but as regards his knowledge of the economy of bee-keeping I must confess my doubts from the moment I understood that he proposed to send driven bees to the island last autumn. Not even healthy stocks or swarms should yet be distributed until a certified expert shall have reported that the apiary concerned is free from disease and that all hives in which disease has appeared have been thoroughly disinfected. A perusal of the correspondence that you have been so good as to send gives me no confidence that the sanitary point will receive proper attention.

"The county association has duties which it cannot creditably ignore. It is only a matter of taking a little trouble. The County Council should be asked to provide purely expert assistance, not as a benevolent action, but for the public advantage. The Board of Agriculture is, as I understand, practically investigating the proper cure of the disease. As regards funds, I can only repeat my conviction that they will be amply forthcoming if the association will only face its responsibilities, pending which, with no desire to influence the action of my fellow bee-keepers, I shall withhold my subscription.—H. J. O. Walker. Leeford, Budleigh Salterton, Devon, February 4."

Mr. Crawshaw's letter reads as follows:—

"In reply to your letter *re* the Isle of Wight bee-trouble, I am in agreement as

to the necessity for a businesslike proposal in the matter referred to, but as alleviation of the circumstances is the main object, I have no objection to subscribe to any fund, to be administered under the auspices of a recognised body. At the same time I would emphasise my opinion that such a fund should be properly instituted and under well-known auspices.

"I have clearly expressed the opinion in the B.B.J. that the proper body to espouse this is the Hants and Isle of Wight B.K.A., and that the details would be best controlled by a small committee.

"I believe that such a committee could systematise the distribution, but even if unsystematic selection of recipients were found to meet the requirements of the case, such selection could not, I think, be so well done by a single non-resident individual having only a cursory knowledge of the people concerned.

"If the committee chose to employ such an individual there could, I think, be no reasonable objection, but however trustworthy and well-meaning such a person might be, responsibility to both the donors and the recipients must finally remain with the committee, who should not seek to shirk it on such grounds as those suggested by your correspondent.

"After all, there need be no jealousy if distribution be done upon a system definitely based upon losses, having in view the widest dissemination of stocks.

"This system could be best devised by the committee when in possession of full particulars, instead of—as from the correspondence you forward I judge is now the case—an incomplete list of sufferers.

"I venture to think that if such a scheme were completed it would be well to circularise all concerned, so that those who desired to forgo participation might advise the committee.

"Such a scheme would quite satisfy any requirements which I, as a small donor to it, might be expected to look for.

"I consider, however, that before any distribution of bees takes place there should be some satisfactory assurance that disinfection is fairly attempted, as otherwise it would appear to be simply throwing away the money, bees, &c., of those brethren who, from a distance, are willing to lend a helping hand in the good work of rehabilitation.—LEONARD S. CRAWSHAW, Ilkley, Yorks."

We need add nothing to the above beyond saying that so soon as the matter has been placed on a proper business basis in which intending contributors will have confidence we will gladly find room in our pages for ensuring the necessary publicity for any appeals to readers which may be considered desirable in furtherance of the object.

SOMERSET B.K.A.

MEETING AT TAUNTON.

In the Municipal Hall, on Tuesday, January 28, a well-attended meeting was held of the members of the Taunton Branch of the Somerset Bee-keepers' Association, the idea being to bring more prominently before the public the objects and aims of the association. Mr. T. W. Cowan, of Bishop's Hull, the Editor of the BRITISH BEE JOURNAL, presided, and among those present were the Mayor of Taunton (Alderman A. J. Spiller), Mr. and Mrs. C. Tite, Mrs. C. R. Lyall, Misses Smith (Halse), Mr. J. G. Loveday, Mr. Buckland (Pitminster), Mr. Howard Maynard, Mr. John Spiller, Mr. Elliott, Miss Elliott, Mrs. Armitage, Major Collins (Bradford), Mr. Bruford (Hatch Park), Mr. W. C. Stone (Wellington), and Mr. E. E. Chick (district secretary).

The Somerset Bee-keepers' Association, founded about three years ago, is courageously endeavouring to attract attention to the claims of this important industry. The moment is particularly opportune, in view of the experiments in cottage-farming which will shortly take place under the Small Holdings and Allotments Act. The cultivation of bees is distinctly advantageous alike in regard to agricultural and horticultural work, and even municipal authorities are in a position to assist the movement by selecting suitable trees when laying out ornamental grounds, instead of such as merely appeal to the eye. That, however, is only a minor allusion in connection with a very far-reaching subject, dealt with in the pleasantly-informing address delivered to members of the Taunton branch by the chairman, Mr. T. W. Cowan, who has recently become a resident in this county, near Taunton, and is giving the local friends of the society the benefit of his advice and aid. Mr. Cowan is known as one of the highest authorities on all that pertains to bee-culture, and has for many years been chairman of the British Bee-keepers' Association in London (to which body the various county associations are affiliated), and dealt with the importance of the bee-industry in the days when honey was the only sweetening product, and beeswax was extensively used for many purposes. Coming down to later days, Mr. Cowan explained how greatly the introduction of cane-sugar had reduced the consumption of honey, while the Reformation crippled the sale of beeswax to a great extent by doing away with the need for so many wax candles in churches. Referring to the establishing of the British Bee-keepers' Association thirty-three years ago, with

the object of bettering the condition of cottagers and improving the methods of bee-keeping, he remarked that the work of the parent association was directed to the encouragement of local associations in different parts of the country, in the West of England that at Weston-super-Mare being about the first one established. From that time onwards the county associations fell on troublous times through the difficulty of getting experts who could visit members located over so large a county as Somerset, and the association had dwindled in consequence, and after a chequered career it was dissolved. Matters had now greatly changed for the better; bee-keeping was being looked upon with favour by many county councils, who contributed to the funds in some cases very liberally; and in the end, as would be known to many present, the Somerset Bee-keepers' Association was founded in 1905 with every prospect of success. Mr. Cowan then dealt with the privileges of membership. The main idea they had in view was to enable cottagers, artisans, and persons with limited incomes to make something from the produce of their hives and to provide an interesting and healthy outdoor occupation for all who are suitably located.

Mr. Cowan went on to say how municipal authorities could assist bee-keepers by planting in their several localities for ornamental purposes such trees as produced honey in lieu of those which were of no use at all except for ornament. After giving other useful advice with regard to the best way of starting with bees, he concluded by quoting instances of the value of honey in sickness and for general household purposes.

Mr. C. Tite, in proposing a vote of thanks to Mr. Cowan for presiding, said they were very proud to think that the honoured chairman of the British Bee-keepers' Association had come to reside in their immediate neighbourhood, and hoped that his presence among them would be the means of reviving their association and rekindling interest in their work. They had a deal to learn in that district connected with preparing their honey for market in the best possible way.

The motion was seconded, and carried *nem. con.* Mr. Cowan suitably replied, and the meeting terminated.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of January, 1908, was £656.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

TOTAL HONEY IMPORTS

FOR THE YEAR 1907.

		£
January ...	value	811
February	,, ...	573
March ...	,, ...	3,923
April ...	,, ...	3,645
May ...	,, ...	3,302
June ...	,, ...	5,454
July ...	,, ...	3,850
August ...	,, ...	3,153
September	,, ...	2,658
October ...	,, ...	1,793
November	,, ...	1,826
December	,, ...	656
	Total ...	£31,644

CHEMISTRY OF HONEY AND FATS.

By S. R. P. Fisher, Pharmaceutical Chemist.

Pressure of business has caused me to be unable up to now to reply to Mr. L. S. Crawshaw's request for a further insight into the composition of honey and fats with regard to their heat-forming properties (B.B.J., January 16, page 27). I will endeavour in the following lines to explain their composition, and to point out their special value as articles of diet so that the most ignorant of your readers, from a chemistry point of view, may be able to follow with understanding, the only point to be taken for granted being that I refer to the saccharine portion of honey only, to the exclusion of the pollen.

Honey belongs to a class of compounds called carbohydrates, which are all composed of the three elements carbon, hydrogen, and oxygen, and the hydrogen and oxygen are always present in the proportion to form water. Note that these elements are not present in the form of water, but should circumstances arise they would combine together and form water. Other examples of carbohydrates are sugar, starch, glucose, dextrine, and gum.

Now if a carbohydrate—say honey—were burnt, the hydrogen and oxygen would combine to form water, which would pass into the air as steam. The carbon would unite with the oxygen of the air, and form carbon dioxide, which is a gas. The heat given out during the combustion is caused by the oxygen uniting with the carbon and hydrogen. In like manner, when honey is carried by the blood and comes in contact with the oxygen of the air inhaled into the lungs it is converted into water, carbon dioxide, and heat. All digestible carbohydrates give the same result. The carbon dioxide is given off from the lungs in the breath, and the stuffi-

ness of overcrowded and badly-ventilated rooms is due to the presence of this gas.

Fats are also composed of the same three elements—carbon, hydrogen, and oxygen. They are rich in carbon, and the hydrogen is present in greater quantity than is necessary to form water with all the oxygen. Hence, when a fat is oxidised or burnt, not only the carbon, but the surplus of hydrogen is available for combination with oxygen from the air. It is this excess of hydrogen which makes fats in general such good illuminants and heat-producers.

The value of a food depends to a large extent on the amount of energy required to digest it. Before carbohydrates can become of use to the body they have to be acted upon by the digestive juices, which convert them into a peculiar form of sugar, which in its chemical composition cannot be distinguished from honey. It is well known that the sugar in the nectar of plants has a different composition from that of honey. The process by which the bees convert the cane sugar of nectar into honey is supposed to take place in the honey-sac, and is therefore a digestive process. It is easy, then, to see that honey is a predigested food, and without doubt many of its virtues are due to this fact.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "THE EDITORS of the 'British Bee Journal,' 8, *Henrietta-street, Covent Garden, London, W.C.*" *All Business Communications relating to advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 8, *Henrietta-street, Covent Garden, London, W.C.*"

NOTES FROM NORTH HERTS.

[7000.] *Diseases of Bees.*—We occasionally hear that foul brood has disappeared without treatment, and while some bee-keepers who have experienced the disease in its worst form doubt the statement, others are inclined to look upon the advocates of fire and phenyle as alarmists who are considerably overstating the danger. The spring manipulations may reveal disease in apiaries which have hitherto escaped, and a little discussion on the subject at the present time may therefore be useful. I am a believer in preventive and remedial measures, and also do not doubt the occurrence at times of self-cures. My views on the subject are summarised in the following notes:—

An attack of foul brood has two causes. The exciting cause is *Bacillus alvei*. The predisposing cause is susceptibility to the disease, which in some cases is inherited and in others is brought about through the vitality of the bees having been lowered by adverse conditions.

The virulence of the disease depends on the power of the bacillus to rapidly multiply in the fluids of its host. This power is capable of much variation. Ungenial conditions modify it, while it will rapidly regain its malignancy, and even become still more virulent, when the stocks attacked have low powers of resistance. With varying powers of the bacillus and varying degrees of susceptibility in the bees attacked, it becomes evident that all cases will not conform to one type, and that from a few cases it is impossible to deduce a rule that will be of universal application.

Although Professor Burri has discovered other bacilli in the mild type of foul brood, I scarcely think there is proof of its being a separate disease. *Bacillus alvei* is also present, and it may happen that the weakened larvæ present a fertile soil in which these other organisms flourish, but that under normal conditions they would be unable to gain a footing. When the bacteriology of black brood has been fully studied we may possibly discover that some of the odourless cases of foul brood should have been attributed to black brood, and that the remainder are simply weakened manifestations of *Bacillus alvei*.

I consider that the varying statements as to the cure of foul brood are due to the fact that the removal of one cause will render the other inoperative. Drugs will act by preventing the growth of the pathogenic organism, and possibly by stimulating the bee-system to deal with the invasion. The starvation cure removes the source of infection, and allows the diseased adult bees to die off before breeding recommences. Re-queening will sometimes substitute for the attacked bees a strain that has greater disease-resisting power, while the rapid extension of the brood-nest will necessitate the unsealing and use for brood-food of honey containing formic acid. For myself, I consider that an important factor in self-cures is the heightened vitality of bees during the spring and summer months; but unless some steps are taken to disinfect the hive the disease will return. Again, the most successful cures will result where attention is given to the type of bee, in addition to the use of remedies against the bacillus.—G. W. BULLAMORE, Albury, Herts, February 10.

BALLOAN "RAMBLES."

[7001.] *The Claustral Hive.*—A very good idea of the construction and working of this hive can be got by reading pages 50 to 54 of the new "Guide Book." There is one point, however, on which I am doubtful. Taking for granted that a necessary cleansing-flight has to be taken once a month, this can be done only when the weather is favourable; but supposing this is neglected when the temperature rises, and the bees come out into the claustral chamber, will they not cleanse themselves therein? Perhaps someone who has had experience will kindly give fuller information regarding this and other details in connection with this invention.

Automatic Hiving.—I am glad to see friend "D. M. M." has chosen to write on this subject (6992, page 52), and, being myself responsible for having raised this discussion, I may be allowed to comment on his contribution to the subject. Our friend describes his method of "hiving a swarm, driven bees, or a travelled lot of which he has any doubts." This is, I may say, intelligible and easily carried out, unless in the case of bee-keepers whose hives are fixed to the bottom-boards or who have no "W. B. C." body-boxes. To those I would say: Place a shallow box or frame not more than 2 in. high on the top of the frames of the hive into which the swarm is to be introduced, or arrange some cushions or other convenient materials so as to form a cavity on the top of the frames. Quickly throw the swarm into the cavity thus made, and immediately cover over with a large cloth placed ready at hand. The whole operation can be done in a moment, and if properly done, so as to prevent the bees from boiling over the edges of the frame, it makes an easy and sure means of introduction.

I would have liked "D. M. M." to explain what constitutes a "doubtful swarm," for which I presume he would deem it prudent to adopt a surer method than that of open introduction. He must have substantial reasons for doing so before he would deny himself the pleasure of beholding that very interesting spectacle, the bees "marching like soldiers" into their hive. I have great faith in his judgment, and feel quite sure that he did not depart from the usual methods unless he had seen the wisdom of doing so.

Straight Combs.—In dealing with this subject also our friend gives five conditions under which good results will be obtained, and then mentions the causes of producing defective combs. There is, however, another cause of failure of which he makes no mention. I am at a loss to conceive by what process of reasoning "D. M. M." arrives at the conclusion that close-ended frames are "a fertile source of badly built-out combs." This is the first time I have heard this fault attributed to close-ended frames. It is also a bit remarkable that in "Cappings of Comb" we find Mr. Crawshaw advocating "end-bar spacing" as a means of preventing the evil referred to.

In his remarks regarding hanging frames Mr. Crawshaw gives convincing evidence that he thoroughly understands his subject. His advice to "take a look under your hive-bodies," if acted upon, will, I am sure, even with well-made hives, prove that his statements are correct.—A. Reid, Balloan, Muir-of-Ord.

VILLAGE BEE-CLUBS.

[7002.] At the annual meeting of the Derbyshire Bee-keepers' Association, held on Saturday, February 1, a discussion was raised on the social side of bee-keeping, by way of village bee-clubs, and I was instructed to write and ask if you could give the association any information on the subject, or perhaps some of your readers who are in touch with the working arrangements of such clubs may possibly oblige by giving particulars in the columns of the B.B.J.—R. H. Coltman, Hon. Sec., D.B.K.A., February 3.

[A letter on "Our Village Bee-club," from the pen of our esteemed correspondent Mr. W. H. Harris, appeared in the B.B.J. of September 21, 1905 (page 374). This letter gave rise to a lengthy discussion at the conference of county representatives held in London under the auspices of the parent association (reported in our issue of October 19, 1906), when the whole question was gone into and a conclusion arrived at. Useful letters on the same subject appeared in the *Record* of September, October, and November, 1905.—Eds.]

THE "CHAPMAN HONEY-PLANT"

(Echinops sphærocephalus).

[7003.] I should be glad of a little space in the B.B.J. to call the attention of such readers as do not know it to the truly remarkable "Chapman honey-plant." Last August I was visiting a friend who grows it, and was astonished to see the way in which the bees were working on the blossoms. The plants were literally alive with bees—as many as ten or a dozen could be seen at a time on a single blossom, without counting those passing to and fro and storing the honey. Then the plants were floriferous—as many as a hundred blossoms were to be seen on a strong plant of four or five years' growth. One was tempted to calculate

how many such plants would suffice to keep a strong stock storing at full pressure. Surely this is an ideal bee-plant, if the quality of the honey is fairly good, especially as it comes just as the harvest of flower-honey is practically over. Can you or any reader give information as to the quality of honey obtained from it?

My friend hopes to be able to speak on this point later, as he has put out a row of seedling plants along each side of a garden path 50 yards in length. It may be, however, that some of your readers who have a considerable number of plants can already give their experience of the honey. The plant is quite ornamental, and suitable for a place in the herbaceous border.

It is to be seen in many gardens, but is not such a favourite there as the varieties of Echinops with brighter-coloured blossoms.—THOS. GLOVER, Bristol, February 10.

THE "CHAPMAN HONEY-PLANT."
(*Echinops sphærocephalus*).

[Opinions appear to vary considerably with regard to the honey-yielding properties of the "Chapman" honey-plant, some readers having tried it with disappointing results, not only in its failure to attract the bees, but to produce plants worth growing for appearance only. On the other hand, many have written favourably of it in our pages, notably Mr. W. F. Reid (vice-chairman of the B.B.K.A.), who some time ago contributed an interesting article on the plant, illustrated by a photo, which gives an idea of its luxuriant growth in his own garden. We reproduce the illustration, and will be glad to have the opinions of other readers who are successful in growing plants six or seven feet high, such as are shown in the picture.—EDS.]

HONEY-BOXES FOR THE SHOW-BENCH.

[7004.] In last week's B.B.J. (page 44) Mr. Dell gives dimensions of honey-boxes for show purposes, such as will make it more convenient for unpacking and repacking at shows in future, but we don't seem to be any nearer yet in the way of fastening. As I understand it, some tie with string, some nail, others screw. Now this must make a lot of unnecessary work for the stewards. This trouble could be overcome if the B.B.K.A. would adopt a standard-size small brass lock for the purpose. It would not cost more than 4d. or 6d. each, and would be more convenient for both exhibitors and show officials.—T. ORMESHER, Ormskirk, February 3.

[Apart from the B.B.K.A. being unable to compel anyone to use a particular form of lock for use in honey-packing, we fear our correspondent loses sight of the fact that a locked box requires a key before

its contents can be got at, and this "key" would obviously be a source of endless trouble to all concerned. There can be no better fastening to a box of honey sent to shows than a couple of good screws, which, in our opinion, serve the intended purpose effective with a minimum of trouble to officials.—EDS.]

DESTROYING QUEEN-WASPS.

[7005.] In the B.B.J. of January 16 (page 26) your correspondent G. Gibson, Bedale, refers to *Centaurea montana* and its varieties; but I find that neither "*carnea*" nor "*rubra*" is given in Nicholson's "Dictionary of Horticulture." "*C. m. cyanus*" is the common cornflower. Can Erythræa (centaury) be meant? If Mr. Gibson would kindly give further particulars it would be useful as enabling your readers to identify the plant.—R. H., Woodeaton, Oxford, February 4.

[The different varieties of *C. montana* are *alba, carnea, purpurea, rubra,* and *sulpurea.* They are so named in the catalogues of Messrs. Barr and Sons, King Street, Covent Garden, London; Messrs. Ware, Feltham, Middlesex, and others.—EDS.]

Queries and Replies.

[3659.] *Dealing with Suspected Stocks.*—I enclose two bits of comb from a stock bought last March from a bee-keeper who was leaving the district. The bees were not strong at the time, through having an old queen, I thought, and they remained weak until September, when they improved, and were carrying pollen well. Last week, when all my other bees were flying freely, none issued from the one in question, and when examined I found about half a pint of dead bees inside, but there was plenty of stores. There is no one around here who can tell me anything about foul brood, but, after reading the B.B.J. for nearly two years, I have learned something from it, and am almost sure this is a case of foul brood of long standing. 1. Will you, therefore, kindly examine, and say if that is so? I was supposed to have ten healthy stocks in my apiary, but fear I am now in for trouble through using a feeder from the suspected stock on another hive, and left it there all winter. The last-mentioned hive is a box-skep with super on; consequently, I cannot examine it during the coming summer. 2. Is it advisable to drive the bees, and, if so, how early? 3. Could I give them medicated syrup in February? 4. I am also sending three small samples of honey for your inspection. I have hives in two places, barely a mile apart. Please state if there is any difference in quality, and, if so, what would be the cause? I send name for reference, and sign—"JOHN," South Wales, February 3.

REPLY.—1. You are quite right: it is foul brood of old standing. 2. We should not drive the bees at all till it is seen if the stock grows weak and sluggish in its work; if not, hope for the best, and let it remain. 3. The only course is to use naphthol beta in food, given as directed in the "Guide Book." 4. All three samples are about equally good in quality, and have only granulated at different periods because of the variation in time of gathering and storage.

[3660.] *Wide-ended Frames for Shallow-boxes.*—Will you please reply to the following in next week's B.B.J.? 1. Do you recommend me to use wide-ended frames, eight of which fill the shallow-body? I have been using frames of the ordinary width, ten of them filling a shallow-body, and have done well with these, but should like your opinion as to which is best, as I shall probably require more next season. 2. Is it usual to run swarms into travelling-boxes from the hiving-skep, or are they hived direct into the former? 3. Do swarm-boxes usually have some form of clustering arrangement? 4. When selling swarms by weight, are fractions of a pound charged for, and, if so, at what rate? 5. About what is wax from cappings worth in lots of about a stone? 6. Does 28-lb. tin mean 28 lb. nett, or is it usual for sellers to allow a little surplus or overweight? I enclose name, and sign—INQUIRER, Wainfleet, February 4.

REPLY.—1. We should certainly try the wide-ended frames for any new surplus-boxes you may be ordering, and so have the opportunity of comparing results. Personally, we think the eight-frame super best. 2. Some adopt the first-named plan, others prefer the second; it is simply a matter of choice. If the swarm was clustered in a convenient spot, we should shake the bees direct into the swarm-box and prop up its edge till the bees gathered in; but more often it is better to hive swarms into a skep first. 3. If the lid of box has perforated zinc on top for ventilation, no other clustering arrangement is needed; otherwise, a couple of rough strips across the top are helpful unless the wood is rough, unplaned stuff. 4. No. 5. You will find the price dealers allow for wax stated in their catalogues. 6. It is, we think, a general rule to give what we might call "full weight" in putting up honey in bulk, but less than ½ lb. should suffice for each tin.

[3661.] *Queen-wasps in February.*—On Sunday, February 9, I killed a queen-

wasp. Is not this very early, especially for us in the North? I discovered it crawling about some mossy grass. They say a good wasp year usually foreshadows a good honey year, so let us hope this early appearance is the forerunner of a good bee-season for 1908.—G. D. W. DAVIDSON, Gourock, N.B., February 10.

REPLY.—A bright, warm day in February usually brings forth the queen-wasp for a flight in whatever part of the kingdom it occurs. We hope your prognostication may prove true.

[3662.] *Clearing Dead Bees from Combs in Skep.*—I have a skep in which the bees have perished from hunger this winter. To remove their remains by hand would involve the destruction of the combs, which seems a pity. I therefore ask:—1. Is it advisable to keep the skep as it is to hive an early swarm therein, and let the new tenants put the house in order? 2. Would the decomposition of the bees left in the hive be likely to have any ill-effects upon any others entering the skep? Your reply will oblige.—T. G. R., Hon. Sec., Mid-Kent Bee-Club, February 8.

REPLY.—1. On no account would we advise your hiving a swarm in a skep the combs of which are occupied by dead bees. Rather than do this we should use a pair of tweezers and pull them out by hand, while the time occupied by the unfortunate bees in clearing the cells would be far more profitably employed in filling them with honey. 2. Decomposing bees will inevitably create insanitary conditions not conducive to the health of the bees or the cleanliness of the hive contents.

NOVELTIES FOR 1908.

A NEW WAX-EXTRACTOR AND HONEY-PRESS.

The manufacturer of the above, Mr. W. P. Meadows, Syston, claims for this appliance that it is undoubtedly the best machine for the purpose ever put on the market, and the only one that will successfully deal with old, hard, pollen-clogged combs.

The illustration makes clear its construction, showing two heavy steel cylinders, the inner one small enough to provide a water-jacket which surrounds the cylinders, except the top.

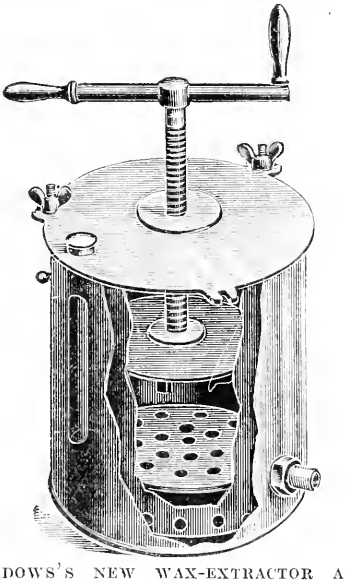
The cover, plunger, strainer, and handle are of malleable steel, with a good square-thread steel screw. The plunger rotates with the screw, and has fans on its under-side which stir and break up the "slum-gum" (an American term) as it is forced down. A glass water-gauge shows height of water.

All is well tinned and finished in best style. Combs containing thick honey may be treated in the same way, the honey and clean wax will come out together, and the wax may be taken off the top in a cake when cold.

Seeing that the wax runs from the machine as soon as melted, there is no fear of spoiling it by overheating.

For fruit-syrups, the fruit is forced out either hot or cold.

Several now in use are giving splendid results. One purchaser writes:—"The wax-extractor works splendidly. I quite approve of screw pressing; indeed, I should never have got the wax out without it. I operated on some old combs and lumps of wax containing pollen, and with gentle screw-pressure got out 8 lb. of clean wax."



MEADOWS'S NEW WAX-EXTRACTOR AND HONEY-PRESS.

THE KING'S BEE-MASTER.

Students of old books on the honey-bee —and perhaps there has been more written about bees during the last two thousand years than of all other creatures put together—do not quite know what to make of Moses Rusden, who was Charles the Second's bee-master, and wrote his "Further Discovery of Bees" in the year 1679. The wonder about Rusden is that obviously he knew so much that was true about bee-life, and yet seems of set purpose to have imparted so little. He was a shrewdly observant man, of lifelong experience in his craft. His system of bee-keeping would not have disgraced many an apiculturist of the present time,

often yielding him a honey-harvest averaging 60 lb. to the hive, which is a result not always achieved even by our foremost apiarian scientists. His hives were fitted with glass windows, through which he was continually studying his bees. He must have had endless opportunities of proving the fallacy and folly of the ancient classic notions as to bee-life. And yet we find him gravely upholding almost the entire framework of fantastic error, old even in Pliny's time; and speaking of the king-bee with his generals, captains, and retinue, honey that was a dew divinely sent down from heaven, the miraculous propagation of bee-kind from the flowers, and all the other curious myths and fables handed down from writer to writer since the very earliest days.

But, reading on in the little time-stained worm-eaten book it is not very difficult to guess at last why Rusden adopted this attitude. He was the King's Bee-Master, and therefore a courtier first and a naturalist afterwards. In the first flush of the Restoration anyone who had anything to say in support of the divine right of kings was certain to catch the Royal eye. Rusden admits himself conversant with Butler's "Feminine Monarchie," published some fifty years before, in which the writer argues that the single great bee in a hive was really a female. To a man of Rusden's practical experience and deductive quality of mind, this statement must have led, and no doubt did lead, to all sorts of speculations and discoveries. But with a ruler of Charles the Second's temperament feminine monarchies were not to be thought of. Rusden saw at once his restrictions and his peculiar opportunity, and wrote his book on bees, which is really an ingenious attempt to show that the system of a self-ruling commonwealth is a violation of Nature, and that, whether for bees or men, government under a king is the divinely-ordained state.

Whether, however, Rusden was deliberately insincere, or actually succeeded in blinding himself conveniently for his own purposes, it must be admitted not only that he argued the case with singular adroitness, but that never did facts adapt themselves so readily to either conscious or unconscious misrepresentation. In the glass-windowed hives of the Royal bee-house at St. James's he was able to show the King a nation of creatures evidently united under a common rule, labouring together in harmony and producing works little short of miraculous to the mediæval eye. He saw that these creatures were of two sorts, each going about its duty after its kind, but that in each colony there was one bee, and only one, which differed entirely from the rest. To this single large bee all the others paid the greatest deference. It was cared for and nourished, and attended assiduously in its progress over the combs. All the humanly approved tokens of royalty were manifest about it. No wonder the King's bee-master was not slow in recognising that, in those troublous times, he could do his patron no greater service than by pointing out to the superstitious and ignorant multitude—still looking askance at the restored monarchy—such indisputable evidence in Nature of Charles's parallel right.

And perhaps Nature has never been at such pains to conceal her true processes from the vulgar eye as in this case of the honey-bee. If Rusden ever suspected that the one large bee in each colony was really the mother of all the rest, and had set himself to prove it, he would have found the whole array of visible facts in opposition to him. If ever a truth seemed established beyond all reasonable doubt, it was that the ordinary male-and-female principle, pertaining throughout the rest of creation, was abrogated in the single instance of the honey-bee. The ancients explained this anomaly as a special gift from the gods, and the bees were supposed to discover the germs of bee-life in certain kinds of flowers and to bring them home to the cells for development. Rusden improved upon this idea by assigning to his king-bee the duty of fertilising these embryos when they were placed in the cells, for he could not otherwise explain a fact of which he was perfectly well aware—that the large bee travelled the combs unceasingly, thrusting its body into each cell in turn. Rusden also held that the worker-bees were females, but only—as Freemasons would say—in a speculative manner. They neither laid eggs nor bore young. Their maternal duties consisted only in gathering the essence of bee-life from the blossoms and nursing and tending the young bees when they emerged from their cradle-cells. The drones were a great difficulty to Rusden. To admit them to be males—as some held even in his day—would have been against the declared object of his book, as tending to entrench upon royal prerogatives. Luckily, this truth was as easy of apparent refutation as all the rest. No one had ever detected any traffic of the sexes amongst bees either in or out of the hives; nor, indeed, is such detection possible. The fact that the queen-bee had concourse with the drone only once in her whole life, and that their meeting takes place in the upper air far out of reach of human observation, is knowledge only of yesterday. In Rusden's time such a marvel was never even suspected. As the drones, therefore, were never seen to approach the worker-bees or to notice them

in any way, and as also young bees were bred in the hives during many months when no drones existed at all, Rusden's ingenuity was equal to the task of bringing them into line with his theory.—TICKNER EDWARDES in *Pall Mall Gazette.*

(Conclusion next week.)

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

*** *Limerick Competition* which closed on February 1:—Winner, N. Williams, Lake Road, Wimbledon, whose line (in italics) completes the verse as follows:—

When honey and bees come over the sea,
With Tariff Reform we all quite agree;
For the B.B.K.A.
Say, "British hold sway,
Let the trade in our own native nectar be free."

E. STAMFORD (Herts.).—*Insect Nomenclature: The Leaf-cutter Bee.*—Without a full-grown insect to judge from, we cannot say which particular variety your specimens refer to, but the cells sent are those of the genus *Megachile* (Leaf-cutters). There are several varieties of this interesting group of wild bees, and the wonderful way in which the larva is wrapped up in a cell formed of leaves neatly folded round it is quite astonishing. When the larva has reached a certain stage of its growth the cell in which it is enclosed is filled up with beautifully-formed circles cut from leaves (mainly from rose trees), six or more of these leafy cappings being pressed one above the other into the mouth of the cell so close-fitting as to completely protect the insect below during its metamorphosis. The perfection of this arrangement cannot fail to cause wonder and admiration.

(MRS.) C. A. (Warwick).—*Making Bee-candy.*—The sample sent is very good indeed, and proves that Bro. Colomban's recipe—as given in the "Guide Book"—is all-sufficient for bee-keepers' requirements if carefully adhered to.

M. W. J. (East Yorks.).—*Bees Cast Out of Hives.*—1. If the same thing occurs again, and the bees show signs of life while on the ground, you had better write us, and we shall be better able to diagnose the case. 2. Heather-honey, if of good quality, usually brings a higher price than that from any other source.

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C. L. WHITEHEAD (Oxon).—*The "Chapman Honey-plant."*—The BEE JOURNAL of November 15, 1906, gives some interesting particulars of the plant, and in same number are details for its cultivation.

J. WAYMAN (Cottenham). — *Railway Charges on Returned Exhibits.*—1. It appears to us that the person who exhibited the hive in question could explain why the surcharges were incurred better than outsiders like ourselves. Anyway, we cannot judge of the case without knowing both sides. 2. Many thanks for the photos sent, but they do not sufficiently explain themselves to justify their appearance in our pages as "swarm-catchers."

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EDITED BY T. W. COWAN, F.L.S., &C., AND W. BROUGHTON CARR.

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Editorial, Notices, &c.

APICULTURAL INSTRUCTION IN AUSTRIA.

In Austria a great deal of educational work is being done with regard to apiculture under the supervision of the Zentralverein für Bienenzucht, a society which numbers 11,527 members. In the official organ of the society, the *Bienen-Vater*, there is an account of last year's work and a programme for the current year. From this we find that there is a Government grant of 1,000 kronen (£41 16s.) towards this work; but with so large a membership the society did not lack funds to establish a school of apiculture, thoroughly equipped with microscopes and other instruments for scientific study. This year there have been added a polariscope for testing honey, microscopic objects, a stereoscope with photographs of foul brood, also various hives and other apparatus. Many of these things have been gifts to the society for the use of members and students. There is also an apiary in connection with the school. In the autumn of 1906 there were no fewer than 190 hives in the apiary, of which 137 were fitted with movable frames, the remainder being skeps. After the hives were brought back from the pastures to which they had been transported, a certain number were either united or destroyed, leaving 162 strong stocks for wintering. The surplus honey taken amounted to 1,770 kilos (3,894 lb.), of which 410 kilos (902 lb.) was light-coloured and 1,330 kilos (2,926 lb.) buckwheat honey. In 1906 golden queens were imported from America, and rearing them was commenced, but 80 per cent. were lost in their wedding-flight, so that only twenty young fertile queens were available for distribution to members, five remaining in the school apiary. Of the six imported queens two died, and one was received gratis from queen-breeder Pratt, of Swarthmore. Of other races, two Caucasian queens and two Italian queen-cells were imported.

The following courses of instruction were given at the school:—

1.—Three days' course on microscopical preparations, for teachers and advanced bee-masters, by Prof. L. Arnhart.

2.—A queen-rearing course of two days, by H. Pechaczek.

3.—A full course of bee-instruction for teachers and bee-keepers, lasting sixteen days, the course commencing every morning at 7.30 and continuing till 7 p.m. Conducted by several instructors.

4.—One day's course on foul brood, by Prof. Dr. W. Winkler.

5.—An elementary course of four days for beginners and those not initiated in the art.

6.—A railway course of three days, so called because the railway authorities recognise the advantage of the station-masters and men keeping bees along the lines, and require them to know something about bee-keeping. The lectures were given at different stations by Herr Alfonsus, the editor of *Bienen-Vater*, and three others.

In all, 130 students and others attended the courses, of which twenty-two passed their examinations. The Lower Austrian Land Commission made a grant of 225 kronen (£10) towards the expenses of those coming from the south.

In addition there were a number of courses given in ten different places, lasting from one to three days. There are also twenty-eight peripatetic instructors.

In the same paper we have the syllabus of the lectures for 1908, in which we find that arrangements have been made with Mr. E. L. Pratt ("Swarthmore") to give two days' instruction on American bee-keeping at the Apicultural School in Vienna.

How thoroughly the work is done will be seen by studying the syllabus of the course on microscopical preparation for teachers and advanced bee-keepers, which is to last three days and is limited to twelve pupils. The syllabus includes: (*a*) Instruction on the use of various microscopes, drawing apparatus, microtome, &c.: (*b*) preparation of the tongue, sting, wings, legs, spiracles, abdominal segments, and other external parts; (*c*) dissection and mounting of the heart, tracheæ, the nervous system, digestive organs, salivary glands, &c.: (*d*) making sections, hardening, staining, embedding, cutting, and mounting. *Note.*—Every candidate has to pay 2 kronen (1s. 8d.) for use of materials, but he may keep the objects which he mounts.

Since writing the above we have received a communication from Mr. Pratt, from which it will be seen that he intends to visit this country before returning to America, and is prepared to take engagements to give demonstrations in the "Swarthmore" methods of queen-rearing to members of bee-keepers' associations, or at exhibitions where bee-produce is shown. His letter reads as follows:—

"DEAR SIRS.—I expect to visit Europe in June, 1908, and should very much like to return by way of England. I shall be glad if you will announce that I shall be prepared to make practical demonstra-

tions before societies of apiculture in 'Swarthmore' queen-rearing. I have already been engaged by the 'Zentralverein für Bienenzucht in Osterreich' at Vienna for the first part of June. Terms at discretion of your society managers. I have written Colonel Walker asking him to aid me in making a few dates in England, and shall be glad of your endorsement.—Yours very truly, E. L. PRATT ('Swarthmore'), Pa., U.S.A., January 29."

GLAMORGAN B.K.A.

ANNUAL MEETING.

The annual general meeting was held at Pontypridd on Saturday, February 8, when a large gathering of members assembled from all corners of the county, proving that the bad weather of the past summer had not totally destroyed interest in the hive-bee. Owing to Colonel Fisher, J.P., having been compelled by urgent Army matters to cancel his promise to preside, Mr. Freeman Gravil, chairman of the executive committee and one of the oldest members of the association, was voted to the chair. Major-Gen. Lee, Alderman T. J. Hughes, Mr. S. Jordan, and others wrote apologising for their absence.

The chairman moved the adoption of the report, which showed that over thirty new members were enrolled, including Mr. E. H. Ebsworth, Llandough Castle, who subscribed three guineas to the funds. The very bad weather of last summer had an adverse effect, of course, upon the honey-yield and the exhibits at various shows. The Rev. H. Morgan had toured the county under depressing circumstances, visiting members, and in his report said he found a further reduction in the number of diseased colonies.

The lecturing expert had given eighteen lectures in various centres, with bees, chiefly on the lawns of members, who, in many cases, had provided refreshments.

The balance-sheet showed that the County Council had again made a grant of £75, subscriptions amounted to £51, while the total receipts were £159 15s. 5½d. The balance in hand is £12 14s. 1½d.

The Bath and West Show at Newport, so far as bee-keeping is concerned, was a success. The Rev. H. Morgan lectured there for the association. Several minor shows again received donations from the G.B.K.A. to provide special prizes for honey.

The Earl of Plymouth, a keen and intelligent apiarist, was re-elected president. For the seventh consecutive year Mr. Wm. Richards was appointed hon. sec. Mr. John Jenkins, A.C.A., and Mr. F. A. Hibbert were respectively elected auditor and treasurer. With a few changes the committee remain as before. Mr. W. T. Wiltshire was elected assistant hon. sec. for the current year.

Through the kindness of Dr. W. W. David, the members afterwards partook of tea. A free public lantern lecture was then given by Mr. J. W. Brewer, Bath, entitled "How to Become a Successful Bee-keeper." Many of the views were exceedingly good.—WM. RICHARDS, Hon. Sec., The Red House, Gabalfa, Cardiff, February 10.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "THE EDITORS of the 'British Bee Journal,' 8, *Henrietta-street, Covent Garden, London, W.C.*" *All Business Communications relating to advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 8, *Henrietta-street, Covent Garden, London, W.C.*"

AMONG THE BEES.

TESTED QUEENS.

[7006.] On page 344 of last year's volume I ventured to call in question the full truth, or rather the limited application, of an answer furnished by Dr. C. C. Miller, in "Question Box" in *American Bee Journal*, to the query "What is a tested queen?" In the B.B.J. of October 10 (page 403) he endeavours to throw the onus of a fuller reply on my shoulders. I must apologise for not taking notice of the subject at an earlier date. Even now I would have preferred to abide by the fruits of the maturer judgment of our versatile veteran friend if he had given the subject the extra "think" I desiderated, but that the subject is of vast importance, and deserves our most mature deliberation. The Doctor might ask Mrs. Miller if she ever heard the following Scotch story:—"A self-righteous old lady by her conversation led her friends to infer that in her belief very few in the parish had any claim to being considered thoroughly orthodox, or 'soond,' as she called it; and when questioned she spoke out her mind freely: ''Deed no. There's only me and the minister—and at times I hae ma doubts o' the minister'!" Apparently in the minds of some in America no race of bees is "soond" but the three-banded

Italians. Even so cosmopolitan a writer and thinker as Dr. Miller gets tainted by the virus (not at heart, I know), and he, for a moment, forgets his own love, in the form of his prolific and honey-getting hybrids, to cast doubts on the soundness of any other race but these Italian three-banders—the *inconsistency* I spoke of.

The Doctor, in his contribution to the B.B.J. (page 403), is unrepentant, and repeats that his answer is correct; that a tested queen is one showing distinctly three yellow bands. I do not say his answer is *wrong*, but I emphatically assert it is not *right;* if it is the truth, it is not the whole truth. If I were to point out that most of our queen-breeders supply us with tested black queens, my reference, I fear, would be ruled out of court, because undeserving of serious consideration, as if a *black* were not a man and a brother. Therefore I sink that part of the argument.

Now, Doctor, put it on a wider basis. Turn to any issue of your favourite American bee-newspapers, *Gleanings* and the *American Bee Journal*, both front-rank bee-papers. There you will find queens advertised under the following heads:—"Golden Beauties," "All Goldens," "Solid Golden," "Bright Golden," "Leather-coloured Italians," "Three-banded Italians," "Red-clover Italians," "Long-tongued Italians," "Carniolans," "Grey, Dark, and Banded Caucasians," and a host of others; while men worthy of our respect and esteem, men prominent and eminent in the profession, offer to furnish us with even "*tested hybrid queens.*"

Turn up the advertising pages of the papers I have named and you will find your leading advertisers offering untested, *tested*, and possibly selected tested queens of all the races and strains enumerated above. Now, if these men are *right*, the answer is *wrong*. Mr. Laws, on page 1462 of *Gleanings*, advertises queens for a dollar—all fine breeding queens, guaranteed to double the stock of honey. Alongside of these he offers *tested* queens costing 5 dollars. I note on another page that a dealer (an American, Dr. Miller) who claims in a short time to have sold over 1,000 queens, and who has 500 ready to mail, does not even mention three-banders, although he lists three classes. Yet he advertises untested *and tested* queens. One other quotation must suffice, lest I weary you. Angel classes his Golden Beauties and three-banders on the same level, and as having no superiors. He, too, has tested queens of *both* strains.

Now, further, to show the fallacy of trusting to *mere bands*, turn with me to *Gleanings* (page 1439), and there you will read that a queen got from a breeder of established reputation—and fully guaranteed as a "tested queen"—proved a poor layer, produced drone-brood, and *no* worker-bees. In fact, the first-class tested queen turned out to be a first-class drone-layer. Yet she was sold as a *tested* breeder of the last year's crop. We read, "Put not your trust in princes." This we might modify into "Put not your trust in bands," lest you find you are trusting to a broken reed.

Just note, again, above untested queens are offered from 1 dollar (down to 50 cents); tested queens are 5 dollars. Surely dealers, and also purchasers, recognise more in the phrase than mere colour or markings, else the one would not claim, and the other would not pay, so many additional dollars for practically the same queens, the products of the same apiary, and evolved from the same parents.

If the answer given bears out the common and accepted significance of the word "tested" as generally used, then it is high time some better and fuller definition were agreed upon. It should be guaranteed that the queens supplied are not only pure and true to race markings, but that their antecedents are known for several prior generations; that their forbears on both sides had proved correct and efficient; that they themselves are known to have mated truly within a reasonable period of the date when they hatched; that the drones were known to the breeder to be *sans reproche;* and that each individual when consigned to the mailing cage is known to be a layer of worker-eggs and a prolific ovipositor. In this country we would not only expect the above in a tested queen of any race, but we would *demand* it.

In view of the fact that so many varieties of Goldens, so many leather-coloured Italians, five-banders, different strains of Caucasians, Carniolans, and such a host of hybrids exist on the American continent, to say nothing of Banats, blacks, Cyprians, and minor races, it might be worth while to ask some to widen their horizon and take a more comprehensive view of life—bee-life.

With sincerest fraternal greetings to the venerable Doctor and his Scotch kin. Long may he continue supplying us with grain-bearing "straws," and long may he continue answering so admirably the queries, *one* out of a thousand of which I still wish to revise.—D. M. M., Banff.

FRAME-MAKING.

[7007.] I much fear the dovetailed frames, as well as those of the older style, are a snare to many beginners in our craft. Like Mr. Crawshaw, I have long been accustomed to "take a squint" underneath both my body-boxes and shallow-frame supers to see how the

frames hang. If ten frames are just made up (whether nailed or not makes little difference) and hung in position it will be found that some of them approach too near to each other at certain points, while others will probably leave less than the ¼-in. space at one of their ends, thus inviting propolisation into the hive. The remedy for this condition of things is to have a 6-in. set-square on your table or bench when nailing up your frames. First test the ends perpendicularly in regard to their position at right angles with top-bar, and then, turning your square *over* the top-bar, test them laterally. This I believe to be the only sure method of getting a true frame. Something can be done by the eye, but so very few persons have an eye that is as good as a "square" that most of us are well-advised to trust the latter until we have proved ourselves possessed of the former. When all care has been taken it will occasionally be found that the frames do not hang quite true; the cause may then be looked for either in the metal end, a warped top-bar, or perhaps a lump of propolis on either the metal end or the runner which carries the frame-ends. Making up frames in this way requires a little more care and patience than the slap-dash method, but virtue here, as elsewhere, is its own reward. At any rate, if the plan cannot be carried out with *all* frames through lack of time, by all means give proper attention to the *brood*-frames, and let the shallow ones take their chance.

Honey-box Fasteners.—I do not think a better or simpler device can be found than the "Prideaux" fastener, illustrated in several bee-appliance catalogues. It can be used without a lock, in which case a small block of wood (held in position by a single screw) should be placed between the ends of the springs to prevent them being removed from the flanges on the staple-plate. This method is, I think, far better than nailing, or even screwing, the lid itself, which would need at least two screws to make it secure, and not very short screws either, when the weight of box and contents is hanging upon them. There would be no weight at all upon the screw near above fastener.

The "standard lock" suggested by Mr. Ormesher is a "counsel of perfection" to which the bee-world will not be likely to attain for a long time to come. To render the use of it compulsory upon all exhibitors by the show authorities would be the only really efficacious way; but we shall not see at present in the show schedules the following:—"N.B.—All packages to be secured by the B.B.K.A. standard lock."—W. H., Brilley, Herefordshire, February 17.

SECTIONS AND FRAMES.

[7008.] I would like to ask your esteemed contributor "D. M. M." what close-ended frames he refers to in his article on page 53. My apiary is fitted entirely with "Hoffman" frames, and the combs are perfect from top to bottom; but then they are "hanging frames," so they cannot be what "D. M. M." refers to, and Mr. Crawshaw will know they are side-bar spaced. I may say there is one little "kink" in nailing frames together that helps to ensure a square frame free from "twist." It is to nail through the top-bar instead of through the side-bar. This pulls the frame square and solid.

Referring to the trouble with thick combs, these will, according to my experience, be built by the bees in the best-managed apiaries, but if a thin comb is taken out from between two thick ones the bees should be driven from the honey by smoking them; then with your spatula press down the thick combs to the desired thickness, so that the frames come to the proper spacing. It will regulate matters. The bees will see to the repairs of combs. It is just one of those "points" where man compels the bee to conform to his will and his convenience.

Tall Sections.—It would be well to call the attention of the B.B.K.A. Show Committee to a small matter in exhibiting, viz., that exhibitors must show 3½ in. by 3½ in. surface of comb. With the advent of a standard section the tendency will be to only allow "standard sections," to the exclusion of all others; therefore, if a tall section is used in competition with the square one, the former, I suppose, should only need to have a ⅜-in. lace edging to put it in fair comparison with the standard. Its *weight* is a matter for the judges.

I use only the "Danzenbaker" section. 5 in. by 4 in. by 1⅜ in., plain, split top, and grooved three sides, in a frame that opens at the top. This frame will work along with the standard shallow-frame, and I am well satisfied with my choice. These sections weigh 1 lb. when filled.

Hiving Driven Bees.—When going out bee-driving, my practice is first to arrange some hives ready to receive my load of bees, because if I chance to arrive home in the gloaming, and on a wet night, it is not possible to follow out the instructions given in the "Guide Book." These hives contain five frames (no dummy). The half of brood-nest containing the frame is quilted down; the "lift" is left on. I unfasten the collapsible skep (a bag filled with thorns), and with a quick jar jerk the bees from the "skep," then cover the "lift" with a carbolised cloth (this

(*Continued on page* 76.)

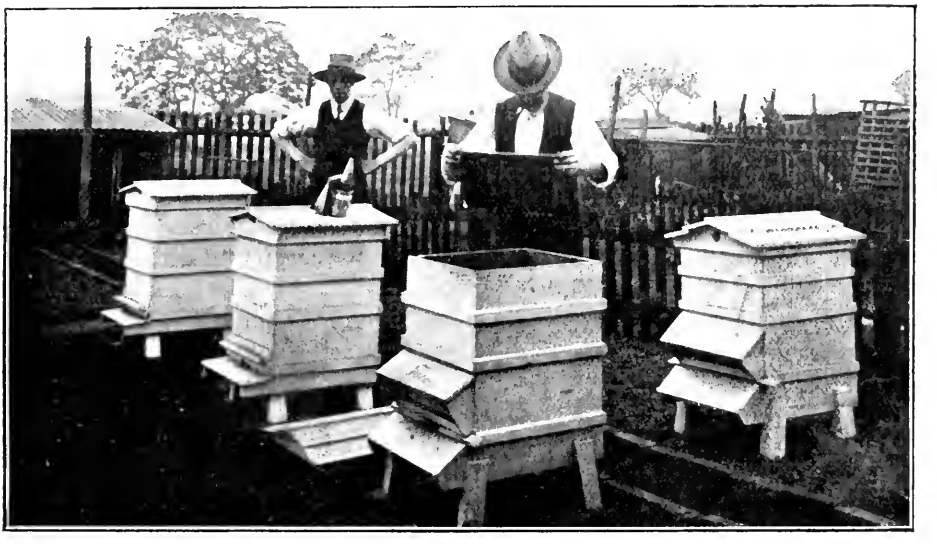
HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

In our friend Mr. Nicholas we are glad to welcome a reader who, though a comparative beginner, is one who bids fair to make a success of the craft. There are solid grounds for this assertion in the fact that failure does not dishearten him; while his bee-work, whether it means hive-making on winter evenings or the "regular study of the craft," is at all times a pleasure to him. We hope to hear of his success in the plans he has in store, as stated in the following "notes," in which he says:—

"It is now five years since I first started bee-keeping. I began with a swarm in a straw skep purchased in the latter part of the year 1904. Knowing very little about bee-keeping at the time of my purchase, I had to rely on what the bee-keeper from whom I bought them told me with regard to stores, but he said the bees had quite enough food to last them throughout the winter; and on the strength of this I did not feed them. My intention was to transfer them into a frame-hive in the early spring; but to my surprise and disappointment, when I began to think it time to operate the bees were found dead, and this, too, for the want of food. However, I did not intend to let this mishap stop me from my determination to become a bee-keeper, so I made another start, and purchased a stock on eight frames from our expert. This stock gave very satisfactory results that summer. I sold all the surplus honey taken from the hive that year (chiefly extracted). I did not work many sections because there is not much call for them round our district. The hives seen are on the 'W. B. C.' plan, and were all made by myself. They answer very well. This winter I have been working at hive-making, and consider it a splendid occupation for winter nights. I have not as yet been troubled with foul brood, although there have been one or two bad cases reported in the district. So I must consider myself fortunate so far in keeping it at a distance. I have gained a great deal of experience through making a regular study of the craft, and also visiting different bee-men in our neighbourhood. I intend increasing my apiary to about a dozen stocks, this being about as many as I can manage. I have not let any of my hives swarm so far, because, being away at my ordinary work all the day, the bees would be sure to want more attention than I could give them; but I prefer honey to swarms. I intend, however, to make queen-rearing one of my occupations for the coming season, being much interested in that branch of the pursuit.

"I have not as yet made an appearance on the show-bench, but think of doing so this summer, and hope for a fair chance of success, as my honey is of good quality, so far as I am able to judge."



MR. W. S. NICHOLAS'S APIARY, ACOCK'S GREEN, NEAR BIRMINGHAM.

("*Sections and Frames*," *continued from page* 74.)

ensures the bees not adhering to the roof), put on the roof, and the work is done, no matter how wet or unfavourable the evening is. Later on the final adjustment of the hive and its contents can be made.

In closing, might I, with the Editors' permission, ask if any readers have tried the plan of working a stock of bees entirely on shallow-frames, allowing two sets in lieu of the orthodox brood-nest?—J. GRAY, Expert and C.C. Lecturer, Long Eaton, February 17.

THE FUNCTIONS OF AIR-VESSELS.

[7009.] The popular idea of the use of atmospheric air by animals is perhaps too limited. The use of the air is not alone the oxygenation of blood, although this is undoubtedly its main purpose; but another highly important use is its lowering of the specific gravity of the body when inspired, or raising the specific gravity when expelled. Fishes seem to have air-vessels for these uses alone, the oxygenation of blood being by osmosis in the gills. Other animals when swimming show by the small portion of the body exposed how nearly their specific gravity is unity (or that of water), and if the lungs become charged with water instead of air the slightly greater specific gravity of the body causes it to sink.

It is a matter of common observation that dead bees are smaller than living ones, the reservoir of air afforded by their great vessels being emptied. Mr. Cowan, in explaining the flight of the bee, shows how the charging of these chambers with air by muscular effort lessens the comparative weight of the body, and thereby assists the insect's flight, and flight is prepared for by such charging. Further, the drone is incapable of performing his special functions without the aid of charged tracheæ, and, just possibly, the queen also. Now all these functions are performed with high muscular exertion, involving more rapid oxygenation of blood, which is specially provided for just when it is required. So it is with defence of its home; the flight then seems more instantaneous than ever—anger arouses the bee. In other words, the bee is more alive at such times than ever.

If the bee be numbed it cannot fly: its vitality is low. Then there are certain diseases which seem almost uniformly to be accompanied by two symptoms—abdominal distension and overburdened intestinal canal, and impaired or destroyed power of flight. In bee-paralysis the abdomen is much swollen, and, running about, the bees fall to the ground. In May pest the "abdomen is slightly inflated," and the bees, unable to fly, drop to the ground; they climb the grass to make an attempt at flight, but fail. In this case Mr. Cowan, in the "Guide Book," shows that threads of mycelium encircle the tracheæ, "in some cases so thickly as to prevent the circulation of air for the distension of the air-sacs." In dysentery there is often great distension, but this, as in other cases, is not the same as the dilatation of the air-vessels; it probably arises from the generation of gases in the alimentary canal, as well as accumulation of fæces. Thus arises involuntary discharge inside the hive, much as in the cases of diarrhœa and dysentery in the human subject. The healthy bee can take its flight and perform its functions naturally, and as they fly away and leave traces of their cleansing-*flight*, the bee-keeper, as pointed out very recently in the B.B.J., is under no apprehension as to their well-doing. The poor dysenteric bee has little power of flight, its very distension, as well as ill-health, preventing the charging of the air-vessels. Physical occlusion of the spiracles by a coating of oil or other substance would in all these cases have the same effect, so far as the power of flight is concerned.

Full vitality was spoken of just now. In the human subject its diminution generally denotes ill-health. But bees are otherwise constituted, so that in the long winter lowered vitality simply means semi-torpidity; and, indeed, our own functions are partially suspended in rest and sleep, though for a briefer period. Bees may be as perfectly well in their long rest as we are in sleep. Give them the stimulus of heat or disturbance, and fresh air will do the rest to rouse them to activity. There is, then, no necessary connection between winter confinement and dysentery, and good food and sanitary hives ought to carry the bees through the winter without any disease such as dysentery is. The long wait for days of flight is in Nature accompanied by diminished consumption of food, and in a healthy bee this will cause no inconvenient or excessive intestinal accumulation. When activity is again aroused the bee will enter into and enjoy life again.

That life and its morbid affections we shall better understand if we realise the great functions of the air-reservoirs and their mutual interdependence: (1) The supply of the circulating fluid with oxygen; (2) the lowering or raising of the specific gravity of the body; (3) the provision of pneumatic machinery, with an elaborate system of valves, for the nerves and muscles to control and utilise; and

(4) the balancing and protection of various organs in the exercise of their functions by means of an elaborate series of air-cushions, much as the heart, liver, and stomach directly, and intestines, &c., indirectly, are by the lungs in our own bodies.—S. JORDAN, First-class Expert, B.B.K.A., Bristol, February 17.

BEES AND FLOWERS.

[7010.] I was much interested in your photo of the "Chapman honey-plant" in your issue of the 13th inst., and the correspondence thereon. All the Echinops family are easily grown, and, with the exception of *E. kitro*, are more adapted for growing amongst shrubberies or edges of lawns in bold clumps. *E. sphærocephalus* responds readily to good cultivation, and I have seen it as good on pure sand as on heavy clay. In regard to its value as a honey-producing plant, I could name at least a dozen better, and would be inclined to place it in the second class. Growing as we do nearly two thousand varieties of hardy plants within a hundred yards of our apiary of from thirty to forty stocks, I have many opportunities of noting the various flowers the bees visit, and can quite understand why some are so much disappointed with the Echinops as a honey-plant. The bees will work on it in hundreds one day—"sometimes for days"—then desert it altogether for a week. Some years they will visit it the whole season of flowering, so there can easily be a difference of opinion in regard to it and a great many other varieties that require to be grown a season or two before one can pass a proper opinion in regard to their value as honey-plants. I send name, and sign—ALLOWAY, Ayr, N.B., February 15.

VILLAGE BEE-CLUBS.

[7011.] I am much obliged for your reference and for printing my letter *re* bee-clubs (7002, page 65). It is to be feared, however, that the difficulty will be to find the "energetic" man so necessary for carrying out the project. The case in point from which the inquiry arose is over sixty miles from Derby, where there are at present three members, who apparently wish the association to act as a fairy godmother and supply the necessary articles and *bees*, as well as form a "club." If it were not quite so far away one might be able to persuade our friends into adopting some methods of "self-help." I hope, however, to be able to do something in this way where more interest is taken in the pursuit, as no doubt a few energetic clubs would be a great help to the association.—R. H. COLTMAN, Secretary, Derbyshire B.K.A.

HANGING FRAMES.

[7012.] "When doctors differ, who shall decide?" I put this question seeing that our esteemed monitor "D. M. M." declares (page 53) "hanging frames *are* hung true, unless carelessly made up," &c.; whilst the "capping" master, Mr. Crawshaw, in effect says, on page 59, "look under your hive-bodies if you desire to be convinced, and you will see they are not." This is my usual practice when setting up a box of frames. I have rarely found them to hang perfectly true. How much more will the bias be when the bees crowd upon them, which can at all times keep both runner and metal ends free from propolis? Very little propolis unevenly distributed will cant the frames. This leads me to ask: Is there a good device used for end-spacing? As an experiment I am fixing a box of brood-frames in this way; in addition to metal end-spaces at top, I am driving at bottom corners through the end-bars a strong wire or stud of the correct length to touch adjoining frame, studs to be reversed at opposite corners in the way of broad-shouldered frames.

This point will give little contact for propolis, and can be turned aside should I require to close up frames.

In reply to your correspondent F. W. Breach (6998, page 57) *re* yeast, "hop yeast," as used by Colonials and others (and probably known to him), will serve his purpose well.—T. E. ATKINS, Atherstone.

THE BEE-SEASON IN SALOP.

"CHAPMAN HONEY-PLANT."

[7013.] Last year was a total failure with me so far as regards surplus honey. In a few cases I might have taken a little, but thought it best to leave it for the bees. Some of my hives had almost no food at all in the combs. As you are aware, I sent to B.B.J. office for 2 cwt. of sugar, and in September fed all stocks that needed help. They seem to have come through the winter all right and without loss, so we must hope the coming season will be a good one, to make amends for our bad luck. There has not been a season like the past one since 1888.

In reply to your request in last week's B.B.J. (page 66), I may say that I have for some years very successfully grown the "Chapman honey-plant." They grow with me from 6 ft. to 8 ft. or 9 ft. high, attract the bees in large numbers, and look beautiful as well when in bloom. Last season I saved a quantity of seed, and enclose stamps to advertise them in BEE JOURNAL at your convenience.—JOHN BRADLEY, Yockleton, Shrewsbury, February 15.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Straight Combs (page 38).—It is quite evident, whilst we are all talking about these, that what we really mean is "flat" combs—combs like a board, and of the right thickness throughout! Of course, the board must not be, to use a local word, a "skelered" one! By the way, it is *not* safe to put foundation between even sealed combs of honey, particularly thin ones, as it may result in a second story of superstructed cells. Such double cells are a great nuisance. A thin layer of them may effectually conceal honey, which will remain untouched by the bees, however dire their need. When met with they should be at once removed by uncapping the false septum.

Dysentery (page 52).—"D. M. M." is evidently a believer in heather-honey for winter stores. But is it so desirable? It has a decided tendency to granulate, so that only a small portion of itself may be available, and a, presumably, well-stored stock may be stranded before spring. I should like also to question his reasoning by asking what was the nature of the dysenteric honey. Surely the latest stored honey in Banff would be heather, and this, under natural conditions, would be the first used. How, then, can the bees only now be arriving at the "healthy heather-honey"?

Flat Combs (page 53).—"D. M. M." is probably right in saying that foundation will be properly drawn out between combs of sealed brood. But unless the brood extends to the top-bar I should expect any unsealed honey-cells to encroach on the new comb. And if the brood does fill the comb, supers are probably *in situ*, and, generally speaking, that is no time to give fresh sheets in the brood-nest.

Worker-comb (page 53, column 2).—I am prepared to take up "D. M. M.'s" voucher that swarms will always build worker-comb from starters under the circumstances he names. In fact, I think the circumstances would have to be exceptional in which no drone-comb was built in the outside frames. Narrow spacing will not prevent this, even in the central frames, if the bees so desire. The required space is easily obtained by their curving the lower corners of the combs outwards. But dividers in the brood-nest would defeat even this end!

Close-ended Frames (page 53).—Why should these be irregularly spaced in practice any more than close-ended sections? I would have them cramped into position with a wedge or spring device. But if you desire to manipulate these as much as some folk pull their hanging frames about, my advice would be, Do not have them! In my opinion, the brood-nest is "manipulated" a great deal too much, even by some so-called experts.

Thick Combs (page 53).—Is not the ripeness of the honey in an outside skep-comb due to other reasons than its thickness—as, for instance, the time of year when such a comb would be filled? And its maturity might often be due to the fact that it was more than one season old; and its choiceness to the fact that it was quite free from pollen, that *bête noire* of skep-honey!

Generosity (page 53).—Ought not one to deduct 2,240 oz. for the wood of that number of sections to bring the calculation right? But does a section weigh 1 oz.? I find that a $4\frac{1}{4}$ in. by $4\frac{1}{4}$ in. four-beeway section just draws $\frac{3}{4}$ oz. "D. M. M." uses two-beeway, so that they would be nearer to this weight. One ounce per section may seem trifling, but it mounts up to 10 st. to the nominal ton of honey!

Isle of Wight Disease in Herts (page 54).—Now how did the disease get there? Has it been taken there from the island? Or what have the two places in common to cause it? Will "H. S." tell us all he knows that will help us in determining causes? Perhaps the existence of such a case on the mainland will finally bring home to English bee-keepers the importance of this matter at their door, and thoroughly rouse them to the good work of sharing in the purging of infected spots. I wish that Mr. Cooper could write us accepting our help in the spirit in which we offer it. We should like to see bee-keeping flourish once more on the island, and it would be a pity that this desirable consummation should be delayed because our genuine offer of help is considered a little tardy.

Queries and Replies.

[3663.] *A Beginner's Queries.*—I should be very much obliged if you would advise me on the following points:—I bought a stock of bees in a box last month from a man going abroad. They have been fed all winter, and, I think, are strong, though I have not examined the combs yet, as I thought it too early. They are now flying in great numbers, and occasionally hundreds are flying round the entrance, and seem much excited. 1. Is this usual so early in the year? 2. The bees carry a grey substance into the hive. Is this pollen, and does it show that they are raising brood? I have put the box into the outside case of a "Cowan" hive and wish to get the bees on to standard

frames as soon as is feasible, so that I can divide the colony. 3. Is it too early to put a body-box containing a few frames under the box, seeing that the weather is so mild? 4. How soon might I examine the stock with safety in order to look for the queen, &c.? 5. I have put a cake of rather hard candy over the feed-hole in the top of the box. Will all the bees have access to the candy, or only those on combs across which the hole extends? The bees were previously fed on brown sugar on the alighting-board of the box, I believe. I propose eventually to keep my bees in a kitchen garden facing south. Three sides are walled in, and the south side is bounded by a stream. There is a border about 6 ft. wide against the stream, with a path behind it. 6. Would this be a suitable place for the hive, or will there be any danger of laden bees falling into the water when returning home? 7. On the other side of the stream is a very small orchard. Would this be a more suitable place? I should prefer the other, as I shall probably wish to put calves in the orchard and fowls. 8. When putting frames of foundation, how much drone-foundation is necessary in a ten-frame hive?

I am just commencing to take in your paper, and any help you can give me through its columns will be valued. I am afraid this is rather a budget of queries, but I know nothing about bees, except what I have gathered from the "Bee-keeper's Guide Book," which I think will be of great assistance to me. Name sent for reference. — FARMER, Bridgwater, February 14.

REPLY.—Before replying briefly to the various queries enumerated above, it may be useful to say that if our correspondent already possesses a copy of the "Guide Book" (new edition), and will peruse it carefully, he will find in it much information of which he is obviously in need, judging by the letter before us. For the rest we reply as follows:—1. Bees, when strong and healthy, take wing in greater or less numbers for a cleansing-flight any time during the year when a fine day occurs and the temperature is high enough to rouse them into activity. 2. Yes; pollen is of various colours, according to the blossoms from which it is gathered. The first pollen-carrying of the year is eagerly welcomed by bee-men as a sign that breeding has begun in the hive. 3. Assuming that your object is to get the bees which are now on odd-sized frames, and that it is intended to transfer them to those of standard size, your best plan will be to allow the bees to transfer themselves from the "box" they now occupy to the "Cowan" hive according to the directions given for transferring from skeps in the new edition of the "Guide Book" (pages 149 to 151). The illustration on page 150 shows a *skep* of bees placed in position for transferring, but a box would answer just as well. After the bees have taken possession of the lower hive and breeding is going on there the "box" will be used as a super for storing honey in, and this may be extracted later on in the season. We cannot understand what is meant by dividing the colony after the bees have gone below, but in any case all such operations must be deferred until the weather is warm and settled, say about April or early in May 4. Not till end of March (see "Guide Book," page 198). 5. Hard candy is no use at all as bee-food; it must be soft, especially at this season. All the bees will reach the candy in turn, or be supplied by their comrades, if the food is soft and properly made. 6 and 7. We should prefer the orchard on far side of the stream for locating the hives, as bees would certainly be lost on windy days by being blown into the water. 8. Use no drone-base foundation at all in brood-nests; the bees will build enough drone-cells along the bottom edge of the sheet of foundation to suffice for drone-rearing.

[3664.] *The Insurance Scheme.*—Myself and others are not quite clear on the following points:—Supposing I have ten stocks of bees, and insure the same for 10d. During the summer I rear young queens for these ten hives, keeping same in ten nuclei of two or three combs each (or even in baby-nuclei). Now, supposing that during this time I have a claim, do I receive compensation in full or half? In other words, have I ten hives or twenty? Considering, also, I may reduce in usual course by re-queening, &c.—H. HILL, Ockbrook, Derby.

REPLY.—We cannot even pretend to solve the puzzle contained in our correspondent's query so far as regards its connection with the B.B.K.A. insurance scheme, nor do we undertake to answer points of law on insurance. The policy printed in our issue of January 23 expresses the terms on which certain underwriters at Lloyd's undertake to indemnify bee-keepers against liability to third persons for damage done by bees belonging to those insured. There is no mention whatever in that circular of compensation to the *owner* of the bees; in fact, the insurer cannot claim for injury to persons in his employ or to live stock under his control. All that is covered by the policy, and it will, we think, be plain to those who read its terms carefully, and do not go beyond them.

THE KING'S BEE-MASTER.

(*Concluded from page* 70.)

If he had lived a few decades earlier, and it had been Cromwell, instead of the heartless, middle-aged rake of a sovereign, whom he had to propitiate, no doubt Rusden would have asked his public to swallow Pliny's whole apiarian philosophy at a gulp. Bee-life would then have been held up as a foreshadowing of celestial conditions, and the facts would have 'ent themselves to this view equally as well. But his task was to represent the economy of the hive as a clear proof of divine authority in kingship, and it must be conceded that, as far as knowledge went in those days, he established his case.

His book was published under the ægis of the Royal Society and "by his Majestie's especial Command," which was less a testimony of the King's love for natural history than of his political astuteness. Apart, however, from its peculiar mission, the book is interesting as a sidelight on the old bee-masters and their ways. Probably it represents very fairly the extent of knowledge at the time, which had evidently advanced very little since the days of Virgil. Rusden taught, with the ancients, that honey was a secretion from the stars, and that wax was gathered from the flowers, as well as the generative matter before mentioned. He had one theory which seems to have been essentially his own. The little lumps of many-coloured pollen, which the worker-bees fetch home so industriously in the breeding season, he held to be the actual substance of the young bees to come, in an elementary state. These, he tells us, were placed in the cells, having absorbed the feminine virtues from their bearers on the way. The king-bee then visited each in turn, vivifying them with his essence, after which they had nothing to do but grow into perfect bees. He got over the difficulty of the varying sexes of the bees bred in a hive by asserting that these lumps of animable matter were created in the flowers, either female, or neuter—as he called the drones—or royal, as the case might be. Having denied the drones any part in the production of their species, or in furnishing the needs of a hive, Rusden was hard put to it to find a use for them in a system where it would have been *lèse-majesté* to suppose anything superfluous or amiss. He therefore hits upon an idea which, curiously enough, embodies matter still under dispute at the present time, although it is being slowly recognised as a truth. Rusden says the use of the drones is to take the place of the other bees in the hive when these are mostly away honey-gathering. Their great bodies act as so many warming-stoves, supplying the necessary heat to the hatching embryos and the maturing stores of honey. It is well known that drones gather together side by side, principally in the remoter parts of the hive, often completely covering these outer combs. They seldom rouse from their lethargy of repletion to take their daily flight until about midday, when most of the ingathering work is over, and the hive is again fairly populous with worker-bees. Probably, therefore, Rusden was quite right in his theory, which, hundreds of years after, is only just beginning to be accepted as a fact.—TICKNER EDWARDES in *Pall Mall Gazette*.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

J. W. C. (Devizes).—*Moving Hives 500 Yards.*—It is a pity the removal has been delayed till now, seeing that the bees will have had several flights from the present stands after their winter confinement. However, you had better move them at once, and place across the front of each entrance a small leafy branch from some tree, thus compelling the bees to crawl through its twigs a few times before taking wing, and so notice the changed outlook. The instructions in "Guide Book" refer to moving bees in the flying season.

INQUIRER (Surrey).—*Carniolan Bees.*—1. Several of our leading advertisers supply these bees to order. Mr. E. H. Taylor, Welwyn, however, makes a speciality of supplying them in the original native hives if desired. 2. The comparative merits of Carniolans and Ligurians is a question of preference. Those who need bees of the quietest disposition prefer the former, but they are difficult to restrain from swarming.

K. C. (Sussex).—*Starting County Associations.*—Several attempts have been made to re-establish the Sussex B.K.A., which was some years ago a very prosperous one. The great need is to find a gentleman of pushing disposition with leisure to devote to the work who would take up the duties of hon. secreary. If you know of such a one, we will be glad to second his efforts in any way we can.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

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SEVERAL NEW HIVES, painted, cheap; also Honey Ripeners and Extractors, Stocks of Bees, in good Hives, at reasonable rates, or exchange anything.—SWAN, 43, Harwich-road, Colchester. e 42

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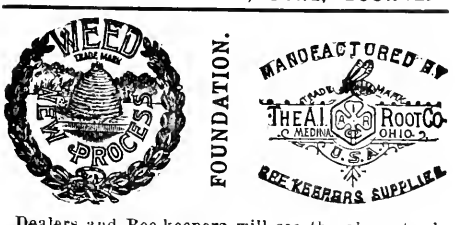

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AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR.

OFFICE: 8, HENRIETTA STREET. COVENT GARDEN, LONDON, W.C.

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held on Thursday, February 20, Mr. W. F. Reid (vice-chairman) occupying the chair. There were also present Miss K. M. Hall, Mr. R. T. Andrews, Mr. W. Broughton Carr, Mr. E. Garcke, Mr. J. B. Lamb, Mr. E. D. Till, Mr. E. Walker, Mr. F. B. White, and the Secretary.

Letters were read from Mr. T. W. Cowan, Miss Gayton, Mr. T. Bevan, Mr. W. H. Harris, and Mr. H. Jonas apologising for inability to attend the meeting.

The minutes of the previous meeting were read and confirmed.

Two new members were elected, viz.: Mr. John Cunningham, Stetchworth, Newmarket, Cambs., and Mr. P. W. S. Jefferies, Hadley Cottage, Park Road, New Barnet, Herts.

The Finance Committee's report was presented by Mr. Reid, and duly approved.

It was resolved to offer medals and certificates of merit for competition at the Royal Lancashire Show at Manchester, July 30 to August 3, as in previous years.

May 15 and 16 were fixed upon as the dates for the first portion (paper-work) of the examination for First-Class Expert Certificates in various districts to suit intending candidates.

ANNUAL MEETING.

At the Conversazione of members to be held, subsequent to the annual meeting, on Thursday, March 19, the following subjects will be brought forward: (1) "Suggestions for Improving the Welfare of Bee-keeping," introduced by Mr. E. Garcke; (2) "Spring-Feeding." There will also be on exhibition a model hive of novel construction and drawings of the ancient "Normansell" cup in the possession of the Worshipful Company of Wax-Chandlers.

BEE-KEEPERS AND NEIGHBOURS.

HIGH COURT OF JUSTICE.

Chancery Division.—Mr. Justice Parker.

An amusing dispute between neighbours at Purley with respect to bees came before his lordship on February 13. It was an action by Mr. Johann Sparenborg, of Dinsome, Peaks Hill Road, Purley, and Mr. Henry Cubitt Heath, of Dunstan, in the same road, for an injunction to restrain Mr. John Nathaniel Barnes, of Braeside, Foxley Lane, Purley, from keeping bees in such a way as to cause nuisance and injury to the plaintiffs.

It was complained that Mr. Barnes's son, John Ernest, kept ten hives of bees in his garden at a spot abutting on the gardens of the plaintiffs, that a large number of the bees in the summer months frequented the plaintiffs' gardens and attacked and stung the plaintiffs and their servants.

The bees, it was contended, were a "nuisance, annoyance, and danger"; they prevented the servants working in the gardens, and deprived the plaintiffs and their families of the reasonable and comfortable enjoyment of fresh air, and their flowers, &c.

Mr. Romer, K.C., in opening the case, observed that bees were certainly useful, and they might be interesting, creatures, but, as he understood, a well-stocked hive contained anything between 30,000 and 60,000 bees, so that if you had ten hives and all were full the plaintiffs had immediately on the other side of their garden boundary no fewer than about half a million of these insects. The result could be readily imagined. They were an intolerable nuisance.

Mr. Sparenborg (counsel continued) had been stung on three occasions; and the occasions when he had been attacked by swarms of these insects buzzing round, but not stung, were numerous. His gardener had been stung twice in one day.

Mr. Heath had been fortunate enough not to be stung; he had found prevention better than cure, and, having regard to what had happened to his neighbour, had kept as far as possible from the end of his garden. He grew vegetables there, and his lordship would hear from Mr. Heath's servant what had happened to her when she went down to collect the cabbages.

In April last year a complaint was sent to Mr. Barnes, who replied that he was sorry for the trouble occasioned by the bees, but it was strange that his family was not troubled by them. "You people must be too sweet," he added, "and they cannot keep away from you." Mr. Barnes also suggested erecting a 15-ft. fence, "as if," commented counsel, "he was talking about cats and dogs."

Mr. Buckmaster, K.C. (for defendant): They were nice, sweet, gentle, docile bees.

His Lordship: I know what bees do. I kept them as a boy. They always hang about in clusters in the neighbourhood of the hives. They are continually going and coming.

Mr. Romer said he would admit that the bees did not drive the plaintiffs out of their houses.

Mr. Buckmaster (sarcastically): I am surprised to hear that.

His Lordship: Bees are curious things. Bees take fancies and dislikes. If they take a fancy to you you can go about

among them and put your hand in the hive.

Mr. Buckmaster: If you treat them nicely and kindly, they are nice and gentle. When Mr. Sparenborg went down his garden you do not know what he said to them. (Laughter.)

Mr. Romer: Perhaps as they have taken a dislike to him you will have the bees removed.

Mr. Buckmaster (smilingly): We will put a notice up on the hives if that will do any good. (Laughter.)

Mr. Romer: It is all very well for you to sit there and laugh. It might be very dangerous. Very serious blood-poisoning might be set up. It is not a case for laughter. If you had been stung—

Mr. Buckmaster: I have been stung many times. These people do not seem to like to have their flowers fertilised by the bees. We have brought no counter-claim for that.

The baby, Mr. Romer complained, could not be put to sleep in the garden owing to the bees.

Mr. Buckmaster: Why don't you put the baby in the rose-garden instead of in the cabbage plot?

Mr. Justice Parker suggested as a solution that the 15-ft. fence should be put up and the case adjourned over the coming summer months to see the effect.

Mr. Buckmaster: And let sleeping bees lie.

A short consultation was held, after which Mr. Buckmaster stated that a settlement had been arrived at, which he hoped would lead to the resumption of amicable relations between the parties. Mr. Barnes would undertake to remove the hives from their present position, and not to increase the number of hives—which was six, and not ten—or the number of working bees. Each side had agreed to pay its own costs.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

DISEASES OF BEES.

[7014.] The self-cure of foul brood (7000, page 64) is an occurrence which many have come to look upon as quite frequent; indeed, I believe that a large percentage of bee-keepers can actually say that they have observed cases where the disease has died out or cured itself. On the other hand, not a few emphatically declare that, according to their experience, foul brood will never cure itself, and its cure by the use of drugs, &c., is difficult, if not impossible. To repeat the arguments on both sides would be futile, and reputed "proofs" might be given *ad nauseam*. The common-sense view is that in "self-cures" the disease must be in less virulent form than when it runs its deadly course to the end, in spite of treatment in various ways or by using remedies. Locality and pasturage may also influence the course of the disease to some extent, while inherited susceptibility or a condition of low vitality may be predisposing causes. But what are we to say of cases where stocks full of strength and vigour are smitten and wiped out by the disease while a weakling standing near escapes? It has been my misfortune to experience attacks at different times in my own apiary, and to have seen more in other apiaries. I also know of so-called self-cures, along with cases cured by simple treatment. On the other hand, I know of many cases where entire destruction of bees and contents of hives was the only sensible course to follow. Where a bee-keeper asserts that foul brood can be cured by the bees themselves or simply by a change of queen, it is certain that his knowledge is confined to that type which never gets beyond the power of the bees to cure themselves when circumstances are favourable. It is generally agreed that we have only two distinct forms in this country, *i.e.*, the mild and the virulent, and I am going to note here one point of difference only in the symptoms, viz., the final stage of the disease, when the rotten mass has dried down to a scale. Until the disease reaches this stage it would hardly be possible for the bees to remove it. In the *mild* type this scale is slightly attached to the lower cell-wall, and it becomes easy for the bees to remove it, as they often do. In the *virulent* type, however, the scale adheres so firmly to the cell-wall that it cannot be removed by the bees. In such cases it would be as idle to talk about "self-cure" as to expect to stamp out anthrax among a herd of cattle without disinfection and destruction of everything where germs of the disease could harbour. This one symptom alone makes two distinct types of the disease. For further evidence in support of this contention we may note that the two types thrive best under opposite climatic conditions. In our own country we find the two distributed more or less over the whole area, while in the United States we must suppose that an entirely different state of affairs prevails.

In the north-eastern part of the U.S.A., in about thirteen States where the climate is temperate, we find the two types or diseases, which have been named there "American" and "European" foul brood respectively, in existence side by side, with perhaps a preponderance on what they call the milder or "European" type. When we get nearer semi-tropical conditions in the south-western part of the Union, they find the virulent or "American" type only existing in its worst form. Here the mild type is unknown, showing that in a climate which may be described as ideal for the existence of the honey-bee this type does not obtain a footing. In this connection it is worthy of note here that our own "self-cures" are brought about only under favourable weather conditions. The fact of the virulent type only existing in a hot climate seems to prove the utter inability of the bees themselves to fight against it. That the milder type can be quickly checked and controlled in the U.S.A. is proved by the following statistics, compiled from the records of the Commissioner of Agriculture of New York, and for which I am indebted to the kindness of Dr. E. F. Phillips. They are based on the value of the annual number of colonies destroyed by "European" foul brood in the different years indicated:—

1899	$25,420
1900	20,289
1901	10,853
1902	5,860
1903	4,741
1904	2,220
1905	1,725
Previous	39,383
	$110,491

The fact of "European" foul brood, although of milder type, being so destructive in New York State is possibly due to the number of large apiaries situated so closely together. The Mohawk Valley, where this disease has caused the greatest loss, is, I understand, one of the finest bee-sections in the United States.—G. W. Avery, Armathwaite, S.O., February 17.

[It is to us a matter for regret that contributors to our columns should introduce such names as "American" and "European" foul brood in this country; at all events, during the present stage of the controversy with regard to the two forms of the disease, known respectively as the "mild" and "virulent" types. The better way will be to leave out all mention of what bacillus is present in each until the matter is definitely settled by the eminent scientists who are now investigating the subject. The bulk of practical bee-keepers are not much concerned in the discussion, and in their interests we hope readers will stick to the names by which the diseases are recognised in Europe as differentiating between the mild and virulent forms. It will save confusion to observe this rule for the present, and they may depend upon us for publishing reliable information on the subject without loss of time when such is available.—Eds.]

ROSS-SHIRE NOTES.

MOVING AN APIARY.

[7015.] Once upon a time our bees were quiet, peaceful, and good. That was in the long ago, when the apiary consisted of three skeps domiciled in an ancient bee-house; its inmates were long-suffering, resenting neither insult nor injury. Cats sunned themselves on the hive-tops, hens clamorously asserted their right to emulate the queen-bee, on one occasion a horse backed into and tilted the whole fabric at a most alarming angle—just touch-and-go with disaster—yet the bees resented none of these things. But as time went by and the apiary gradually expanded, with the confidence begot of numbers a very different disposition was developed. All concerned got effectual hints that the term "bee-garden" must be taken in the most literal sense as being a spot where no creatures but bees could stay and live. Feline complacency was rudely disturbed, the domestic dog sought refuge in the darkest cellar, the feathered world was utterly routed in one sanguinary battle. But then, grown overbold, the fighting element began to "hold up" pedestrian and vehicular traffic on the adjoining public road. Result—daily alarms and terrors, with fleeing bipeds and quadrupeds sore dismayed. Post-result—bees must go. The "flitting" was successfully carried out during the closing days of April, with no further preparation other than keeping entrances blocked with grass for a few days previous to and after moving. When it came to seeking aid, none were ambitious of lending a helping hand to the lone bee-man. The boldest "Saturday afternoon" soldier, pledged to defend his native land against foreign foes, shied violently at the prospect of coming to close quarters with the dreaded "Italians."

However, at length an individual was found courageous enough to bear a hand under cover of darkness, and the removal was quickly effected viâ the domestic wheelbarrow. A small corner of a small pasture field was all that could be spared to accommodate the "small holders," and here they were surrounded by wire-fencing, supplemented with a screen of

brushwood, having the double object of shielding the inmates from the hot sun and outsiders from injury.

This worked well for a time, but in due course the adjoining hay-field had to be mown, and trouble came. It came in the shape of a scytheman cutting "roads" in advance of the mower. Naturally, the inmates of the hives had strong objections to seeing their forage laid low, so a deputation went forth to remonstrate with the approaching vandal. He, however, gave battle with his bright blade, but, getting the worst of it, made his heels his friends, and fled for shelter accompanied by a halo of angry bees. Facing the wind, the pursued had a slight lead, but his hat fell off, and, stooping to rescue it, the pursuers got him! He was bald, but the bees "sat down" so hard and so thick on his unprotected pate as to apparently act the part of genuine hair-restorers. The victim sent down to inquire whether there was any balm in Gilead. The bee-man was from home, so his representatives prescribed carbonate of soda. Baking soda! How thoughtless not to see that the situation necessitated the stricken one being supplied with a modicum of "mountain dew"—not for external use, of course. John Highlandman knows a trick worth two of that!—J. M. Ellis, Ussie Valley, February 20.

SUPPOSED BEES IN BLOCK OF STONE.

ERISTALIS TENAX (OR DRONE-FLY).

[7016.] Some few weeks ago it was stated in an Exeter newspaper that while stone was being fashioned for building purposes at a certain stone-yard in that city, a workman came upon a swarm of bees embedded in the block he was sawing. The report aroused some interest, and was, I believe, noticed in a London paper. I found an opportunity to inspect the stone, which was then in a shop in High Street. It was a square-cut block of white stone, and in one side of it there were two brown-stained uneven holes leading into a small cavity, which, as far as I could see, would not have held half a pint of bees. The holes were stuffed up with paper, and on removing it from one of them I could see only a little dirty débris, but presently the head of a big-eyed insect was protruded from a chink, and I at once recognised it as belonging to a "drone-fly" (*Eristalis tenax*), familiar on our garden flowers in late summer, and as autumn settles in on our window-panes, and to the shop-window the poor prisoner soon flew. I was loath to put it back to durance vile, but the stone was wanted that evening to be shown at a meeting of a naturalists' field club, and this also prevented my making further investigation, although I could see the remains of another drone-fly, some time deceased, as I plugged up the hole again. Nor did I care to see more, as it was too late to get any trustworthy evidence as to the former condition of the stone. The mystery was solved as far as the swarm of bees was concerned. I have little doubt that there was some small aperture in the outer face of the stone by which the drone-flies had made their way into what they deemed to be satisfactory winter-quarters in the internal flaw, and the mason in squaring the block had opened out their habitation.

The *Eristalis tenax* has been answerable for many a scare and misunderstanding. When Maeterlinck and others tell us of the lazy drone basking on the flowers it is the drone-fly that has deceived them. Its life-history is curious. Although the insect is not a foul feeder, it lays its eggs on the edge of dirty, stagnant water, and the larva is aquatic. Some writers have suggested that since the eggs may be laid—as they imagine, for I have seen no proof of it—on moist putrefying substances such as the decaying corpse of a large animal, the *Eristalis* arising therefrom may have been the basis of the classic fable to be found in Virgil's Fourth Georgic and elsewhere, which tells that by bludgeoning a bullock to death, and then shutting it up for a time in an outhouse in a manner carefully detailed, a swarm of bees will delight the operator by issuing forth when he returns and opens the window. The obvious expense of this device, and perhaps other reasons, have hitherto prevented me from putting it to the test.—H. J. O. Walker (Lieut.-Colonel), Budleigh Salterton.

THE ISLE OF WIGHT BEE-TROUBLE.

[7017.] With reference to the suggested distribution of bees, &c., in the Isle of Wight, may I remind readers of the B.B.J. that this suggestion originated with Mr. L. S. Crawshaw, and it was not until I saw that this excellent idea was likely to fall through for want of someone to undertake the necessary correspondence that I offered to do so. Much valuable time was lost last August through this shifting of responsibility, and the opportunity missed of sending driven bees to the island.

But some may ask, what are my qualifications for the task I proposed to undertake? Let me say, then, that last May I was commissioned both by Mr. E. H. Taylor and the *Daily Mail* to make a tour of the Isle of Wight and to present

the actual facts of the island bee-scourge to the British public. I spent several days on the island riding about on a bicycle and interviewed nearly forty bee-keepers, many of whom had lost the whole of their bees in a few weeks by a new (to them) disease which has swept over the island like a tornado, annihilating 80 to 90 per cent. of the bees in the island.

Those I visited only represented a portion of the sufferers, and I have since received letters from others, making a total of about fifty persons (the majority of whom I have personally visited), who have suddenly lost their bees in the manner already described in the B.B.J.

If there are any other persons who have the facts of this matter at their fingerends equally well, and are willing to undertake the task, I shall be most happy to make way for them. Mr. Bellairs, hon. secretary, and Mr. H. M. Cooper, district hon. secretary, of the Hants and Isle of Wight Association, have stated they prefer to leave the distribution in my hands, while the islanders themselves have confidence that impartiality will be shown.

I have already asked the Editors of the B.B.J. to appoint a treasurer to deal with finances, and to nominate anyone they like to revise the suggestions and selections made.

Lieut.-Colonel Walker has criticised my fitness for the position on the ground that I recommended the sending of driven bees last September. I did so for two reasons—(1) that it was the line of least resistance, costing little to the giver and much to the receiver; and (2) that the two strongest stocks I saw alive in the island last May were 6-lb. lots of driven bees of the previous autumn.

I will willingly make way for the Colonel if he will undertake the task.

My proposal is to send, say, fifty or sixty stocks or early swarms to the island this spring, and see how they prosper. Already the promises amount to an equivalent of about twenty stocks or swarms, and it surely ought to be an easy task to send sixty. Hives are not required, but frames and foundation will be welcomed.

May I suggest that the condition of giving either money, stocks, or swarms should not be of the nature as to who undertakes the distribution, but rather that the recipient should treat the stock in some particular manner.

In this way valuable information will be obtained, and now that similar symptoms are reported in Herts (*vide* B.B.J., February 6, page 53), it is to the interest of every British bee-keeper to assist in solving this problem.

May I appeal for a liberal response, and trust that by next week the whole of the sixty lots may be forthcoming.—JOHN SILVER, Croydon Grove, Croydon, February 22.

[In order to give Mr. Silver all the publicity our pages afford in his praiseworthy effort to awaken interest in the fund he proposes to raise, we publish his appeal as above, and wish it a full measure of success. But we are still unable to understand the inaction and lack of interest displayed in the matter by Mr. Bellairs, hon. secretary of the Hants and Isle of Wight B.K.A., and the district hon. secretary, Mr. H. M. Cooper, the latter gentleman being the prime mover in bringing to public notice the disastrous effects of what is known as the "Isle of Wight bee-disease."

The letter of our correspondent Mr. T. E. Atkins which follows is suggestive as confirming the views of Colonel Walker, Mr. L. S. Crawshaw, and ourselves, as given in our issue of the 13th inst., and if Mr. Silver can do anything to bring about the arrangement proposed he would, in our opinion, stimulate interest in the fund more than in any other way.—EDS.]

HELP FOR ISLE OF WIGHT BEE-KEEPERS.

[7018.] Mr. Crawshaw again refers (on page 78) in sympathetic terms to the losses of bee-keepers on the island. I think I am voicing the thoughts of every reader of the B.B.J. in echoing his sentiments. But why this forbidding silence, that broods so many moons over the stricken island? Is there no bee-master in the Isle of Wight who will write and tell us of the progress of affairs? If the Hants and Isle of Wight B.K.A. is antagonistic, surely some brother who has suffered can give us some little light as to what is being done to combat the disease. There are hundreds willing to help when they are satisfied that they can render real help, and that their efforts will not be wasted. I myself am poor in this world's goods, but will cheerfully give a swarm when the proper time arrives, and I am confident others are prepared to do the same. But I think all readers of the B.B.J. will stand by the Editors in insisting that the matter should be treated in a business way, and that donors should be satisfied that their gifts will not be wasted.—T. E. ATKINS, Atherstone, February 22.

NOTES FROM NORTH HERTS.

[7019.] *Wax-rendering by the "Gerster"* (page 59).—In the latest edition of the "Guide Book" it is stated that "wax extracted by this method is free from impurities and of a beautiful colour." Foundation makers usually melt wax by means of a steam-pipe. Steam

is chemically pure water, and no lime-salts are therefore present to spoil the wax. The temperature of steam is that of boiling water, and the "Gerster" extractor permits the liquid wax to escape, so that overheating is prevented. What are the attributes of the superior-quality wax, and how much of it is there?

Bee-temper (page 59).—Mr. Crawshaw mentions the survival of the honey-gathering instinct as a proof that selection has practically no effect with regard to bees. But I think we may take it for granted that if an animal loses an instinct on which its life depends, it will leave no descendants. Stocks composed of very inferior honey-gatherers would have insufficient provisions for wintering, and dead stocks do not give off swarms the following season. Nature has imposed a minimum below which the honey-gathering instinct cannot descend without fatal results. The skeppist was also advised to take up the lightest as well as the heaviest stocks, and such a system must have tended to favour mediocrity.

Co-operation (page 59).—A good district for the formation of such a Utopia would be where re-queening of vicious stocks is now as universal as the use of the brimstone-pit in former days. It may appear hopeless to get the bee-keepers of a district to agree to a standard bee, but effort in that direction might produce some good; at any rate, the temper of the bee is not likely to be affected by complaints of the introduction of the black bee by prehistoric man, or of the introduction of the yellow bee by the moderns.

"*Chapman Honey-plant.*"—Last season I noticed the wasps were very busy on this plant, although the bees also visit it. I think it is worth growing, if only to amuse the former insects. The flower-heads were at times almost covered with them, and their virtuous efforts must have allowed the bees to somewhat relax the vigilance usually necessary at the hive-entrances.—G. W. Bullamore, Albury, Herts.

MICE IN HIVES.

[7020.] I have only just started bee-keeping, consequently my knowledge of it is very limited, but I would like to express my thanks for the information received through the B.B.J. in reply to "F. L. C." (3655, page 49) in respect of "Mice in Hives." After reading it I caught four field-mice which had been troubling me for some time, and on examining the contents of the stomach of one mouse I found a bit of cheese by which I baited the trap, also three heads of bees. I may say that for some time before this I kept finding dead bees with the head and thorax gone, but had no idea that mice were troubling my bees or doing any mischief. Since then, however, I have caught these four mice, and what few dead bees are now thrown out still remain intact on the ground. Since I caught the mice and told other bee-keepers of the result of my post-mortem examination they have made up their minds to destroy all field-mice they find about their hives. I offer this as a useful hint that might help some of your readers who may be troubled in the same way.—H. Stonard, Hants, February 13.

P.S.—Is there a Hants Bee-keepers' Association near me?

[Yes The hon. secretary of the Hants and Isle of Wight B.K.A. is Mr. E. H. Bellairs, Bransgore, Christchurch.—Eds.]

THE "CHAPMAN HONEY-PLANT."

[7021.] I have grown the above plant in a corner of my kitchen-garden for many years, and find that it is a constant source of attraction for my bees. While I have only occasionally seen it visited by the bumble-bee, the hive-bee is a regular visitant. It attains a height of from 5 ft. to 8 ft. with me, and seems to be perennial. It is easily established, and blooms the second year after sowing the seed. The honey it yields answers very well for bee-food, and comes in after the main honey-flow is over, thus helping to keep up autumn breeding; but I for one do not think it could ever be produced in quantity which would be commercially valuable. As I never remove honey from the brood-nest for extracting purposes, I cannot say anything as to the quality of the nectar from *Echinops sphærocephalus*.—W. H., Brilley, Herefordshire.

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. Macdonald, Banff.

Weeding Out.—Professor Cook makes this interesting point in *Gleanings*. The "Babcock" milk-tester renders it possible for the dairyman to know just what each cow brings him, at once and with no mistake. This makes it possible to weed out the failures and also the indifferent animals. The bee-keeper has no need of a machine, for if he has sharp eyes he will know his queens from alpha to omega, and well knows those that fill the hives with industry, honey, and his pocket-book with dollars. Therefore let us be unsparing, and mercilessly destroy every one that does not come up to the best, and requeen from the best queens that are reared from the best queens in the yard. Here we have advice, given in a new way, that we may have heard before; but

a good thing is none the worse for being repeated. Indeed, this is a point that deserves to be prominently kept in the forefront. It might be stereotyped and renewed periodically with advantage to all. "Lest we forget"! Certain points are the better for being reiteratedly dinned into the ears of bee-keepers. *Weed out* all inferior stock; re-queen only from the best. Last year was so very poor a queen-rearing one that it is certain many colonies are now headed by worn-out queens much in need of supersedure. Keep a wary eye on all such on the opening of the breeding season, and at as early a date as possible replace by a more prolific mother. If none are on hand, a few shillings are well invested in the purchase of one from a reliable dealer.

Basswood Honey.—In a recent conversation Mr. Doolittle gives us some interesting facts worth summarising. The late Dr. Gallup obtained a yield of 20 lb. a day on an average from a single colony during a period of thirty days, or 600 lb. from a single colony in thirty days. He himself had a colony which yielded 66 lb. of basswood in three days and 302 lb. in ten days. For thirty years his average yield from this source all over his apiary has been the remarkable average of 55 lb. The shortest flow he has ever experienced has been five days and the longest twenty-five days. Rarely does this source of supply prove a failure, but at times, if the weather is cold, rainy, cloudy, with the wind blowing from the north, bees cannot work effectively. The state of the atmosphere has much to do with the secretion of nectar, and in very favourable circumstances the nectar will almost drop from the blossoms. Then this liquid sweet is almost pure honey, not sweetened water, which makes basswood doubly valuable. A bee can load up from a single flower. This is the source which the same writer's bees follow up for a distance of eight miles from home.

Our linden or lime (*Tilia Europæ*) is of the same genus as *Tilia Americana*, and although the basswood has larger leaves than our lime, they do not otherwise differ much. I am not aware that the American species is grown extensively in this country, but I should think it would prove a success. Wherever planting for bees takes place this tree deserves a foremost place, as it is not only graceful and umbrageous in its growth, but proves a successful grower in urban and suburban districts, as well as in the open country.

Pollen in Honey.—"The principal fault with all honey that I am acquainted with, except basswood, is that it contains some pollen that is carried into the honey-cups of the flowers by the wind or by insects, and then it is taken out with the nectar and becomes mixed with the honey, where it has a very injurious effect on the bees during the winter. This pollen is very noticeable in our large honey-tanks when they are nearly full of extracted honey, as it rises to the top, forming a scum sometimes 2 in. thick. This when mixed with the winter stores is quite likely to cause dysentery before the bees are taken from their winter quarters in the spring." I am pleased to extract the foregoing from a recent article by Mr. E. W. Alexander, because it supports a theory I enunciated on page 52, which was rather sceptically derided on page 78—viz., that certain honey carried into the hive has such an admixture of pollen that it breeds dysentery. My words were milder; it contains "the makings of dysentery." As Mr. Alexander excepts the basswood, so I excepted heather-honey, and that for two reasons. Heather supplies comparatively little pollen, and in the later stages of the flow pollen-bearing plants are getting not only fewer, but those left are getting less bountiful in their supply. To this might be added a third reason: bees have ceased to lavish their labour on its transmission to the hive. Ergo, such honey contains less of the makings of dysentery! That is my opinion.

From a Tiny Seed!—A small trade tract circulated gratuitously in Medina, Ohio, was in 1873 changed into a quarterly *Replies to Queries*, and was so favourably received that it was immediately changed into a monthly. This soon became enlarged, until it developed into *Gleanings in Bee-Culture*, one of the front rank of the world's bee-papers, with its fortnightly issue, its sixty pages of printed matter, with choice illustrations, its half-dozen editors, sub-editors, and managers, and its 35,000 subscribers. Thus in one-third of a century the tiny seed has become a great tree.

When *Gleanings* was in its fifth year it was deemed well to put some of its best productions in a more permanent and getatable form, and out of this grew "The A B C of Bee-Culture," one of the leading authorities in the bee-keeping world. The first issue in 1878 bears, however, little resemblance to the latest edition of 1908. These thirty momentous years have revolutionised bee-keeping, so the newest is not only an A B C but an X Y Z, and, as the Americans themselves would say, "it fills the bill." Here we have 600 large pages of the newest and the best matter in Beedom, with hundreds of beautiful illustrations, all for 6s. Carried on as the industry is on so extensive a scale in America, everything is big, and the Root works are becoming a huge mammoth. Yet all these grew out of such a tiny seed as a *swarm of bees* that passed over a shop in New York forty years ago.

DEATH OF MR. F. WALKER.

We deeply regret to receive news of the death of the above gentleman, who passed away on the 9th inst. after a long illness. Mr. Walker held the position of Superintendent of Markets for the Borough of Derby for over thirty years, during which time he took entire control of the markets, including the Cattle Market, which was formerly under a separate official. He was well known and much respected by the inhabitants of the borough at large.

Mr. Walker was also known to a very wide circle of friends as the first member of the Independent Order of Foresters in Derby, from which beginning he rose till he became High Chief Ranger, the highest office his brethren could bestow. But to bee-keepers he will be best remembered and esteemed as hon. secretary of the Derbyshire B.K.A., a position he held for several years, and vacated through lack of time to attend to its affairs.

He had a cottage at Smalley and one at Chellaston, where he had a number of hives, and as an exhibitor had met with great success, securing medals and valuable prizes in London and the provinces. The funeral took place at Smalley on Wednesday, February 12, the county association being represented by Mr. Jos. Rowland, its expert.

Mr. Walker leaves a widow and ten children to mourn his loss, while the market people lose a good friend and the Corporation of Derby a valuable servant. On behalf of the numerous bee-keepers, including ourselves, who were in touch with Mr. Walker in his active days connected with the craft, we tender the deepest sympathy to the widow and family.

THE LATE FRANCIS WALKER.

Queries and Replies.

[3665.] *Neglecting Foul Brood.*—As a reader of the B.B.J. and a bee-keeper I must confess to not taking so much interest in my bees as I should have done. Consequently it is to be feared that real

trouble will follow. In order to be quite sure I am sending two pieces of comb for your opinion, as I suspect they will show a case of foul brood. I may say that the hive from which sample marked No. 1 came was suspected of being diseased last summer. It was also very weak in bees. On the other hand, No. 2 is from the best stock in all my eleven colonies, and gathered 35 lb. of surplus honey in the bad season of last year. It was also very strong in bees when packed down for the winter in September last on ten standard frames. I examined it again on the 6th inst. and found only 500 or 600 dead bees, although there was at least 20 lb. of stores left. What I cannot understand is:—1. If it is foul brood why should the bees have done so well last summer? 2. How is it there was such a small number of bees left when I examined on February 6? 3. Where have the bees gone, seeing that the ten frames were all covered when the hive was packed in September last year? 4. Should this be a case of foul brood I should like to know what I had better do with the frames and hives, and if it is a long-standing case? I send name for reference, and sign—ONE IN DOUBT, Hunts.

REPLY.—Samples of comb sent are affected with foul brood in pronounced form, the only difference being that No. 1 is of older standing than No. 2. With regard to the questions enumerated, we reply: 1. It is not very uncommon for affected stocks to do well for one season after first becoming diseased. 2. Simply because the disease had made rapid progress as time went on. 3. The dead bees would be carried out by degrees by survivors. 4. Burn the combs and contents of the hive, and disinfect the latter before using again.

[3666.] *Tarred Felt on Floor-boards.*—Will you please reply in B.B.J. if I have done right in covering the floor-board of my new hive (not used yet) with tarred felt? I put some calico over top of this, but am wondering if it should have been put on the under-side of floor-board instead of on the top. I begin to think that perhaps the smell of the tar will upset the bees, hence my question. I am only a beginner, starting last year with one hive. I put a swarm into it early in June, and got about 30 lb. of honey, leaving the brood-chamber full. Was this a good start? Thanking you at all times.—J. G., Bridlington, February 17.

REPLY.—We have never heard of anyone covering the floorboard of hives with tarred felt, which would certainly be offensive to the bees. If felt of that kind was needed at all—which we doubt—it should have been put on the under-side.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Similarity of Honey and Fat (page 63).—I would thank Mr. Fisher for so kindly enlarging upon this subject in a way which makes his original intention quite clear even to my frivolous mind! I have shown his letter to a well-known analyst, who, whilst agreeing with his general conclusions, points out that the comparison is perhaps rather summary. Of course, there must be more intention in the respective differences than can be detected by final analysis, and this process is itself somewhat arbitrary. Gauged by such test, coal and diamonds might seem of equal value; and such substances as acetic acid and cane sugar would appear remarkably similar, yet the average bee would turn up its clypeus in scorn if offered the one for the other; whilst one has only to try a lump of fat in a cup of tea to be convinced of very real and tangible difference between it and some more appropriate carbohydrate! But, seriously, even hybernating animals are more than mere calorimeters, and there must be reasons for the complex variety of Nature's fuels. Otherwise we might simply stoke with petroleum and save much dish-washing!

Varieties of Foul Brood (page 64).—The evidences in this matter appear to be tending towards a definite separation of the two diseases—viz., mild and virulent foul brood. That is to say, there seems to be growing reason for belief that mild foul brood is caused by *B. alvei*, and that the bacillus is not merely present; and that virulent foul brood is caused by a distinct bacillus, not yet authoritatively named, but for which, amongst others, the name *B. larvæ* is claimed. In other words, the mild type is not merely a "weakened manifestation" of the virulent. Whether this be so time and further investigations will show. Of course, *B. alvei* may prove to be present in the virulent type also, at least in some cases. If not, the investigations of Cheshire and Cheyne will require to be reconciled with the fact.

End-bar Spacing (page 65).—This must not be confused with close-ended frames! The two things are not necessarily synonymous, although one of the results is common. And whilst I am a believer in shallow close-ended frames, I am not an advocate of them for the general run of bee-keepers, for whom I believe the standard hanging-frame to be well adapted. But I think many would be pleased with a trial of some simple spacing device, and for this purpose I very much like the new strips made by the A. I. Root Co. They are a substitute for the V contact of the "Hoffman" frame, but they do not lend

themselves to so much gluing, and their use actually strengthens the frame.

Tested Queens (page 72).—How interesting that two such able pen-wrestlers as "D. M. M." and Dr. C. C. Miller should try a bout on the floor of the B.B.J.! Would that we might have more such discussion, and upon the more important matters of bee-culture. The unfortunate obstacle to this would appear to be that they would only disagree "once in a thousand times"! What a pity! Otherwise Greek might meet Greek oftener! But the Doctor is a Terrible Turk, and although the Dominie would seem to have brought him to ground, "two points down," which under Scotch-Græco-Roman rules should count the fall, the Doctor may yet come up smiling.

Frame-making (page 73).—May I agree with your esteemed correspondent "W. H." as to the dovetailed frame? It is undoubtedly simple to assemble these frames, but they may easily be a snare to a beginner. Many such seem to consider them satisfactory, although not nailed! May a kindly providence guard the travelling expert from unnailed frames! The dovetailed frame is, however, altogether too flimsy. I like a frame that will really bear wiring. But quarter-inch end-bars! I am almost surprised that the top-bar should not be considered heavy, in spite of the saw-cut! A few holes might do something towards lightening it, and they might be made the right size for the wax-moth to sleep in! But I must restrain myself!

Sections and Frames (page 74).—Now the "Hoffman" frame is the other extreme. There must be as much wood in the top-bar as would make a dovetailed frame, for this is about an inch thick. Mr. Gray's hint to nail through the top-bar is right; the other method is hopeless. With two nails at each end, should there be a slight twist, strike the nail which will correct it. Then the end-bar will bed into the top-bar rather more at one side, and accordingly swing over at the foot. If this be done with the diagonal nails considerable twist may be removed.

Thick Combs (page 74).—If much of the thick honey-comb be reduced with the spatula, considerable mess will be made in the hive. This will, of course, be cleared up, but it is disturbing. I have found, too, that there is a tendency to build brace-combs after such an operation. This may be due to the extra wax at disposal.

Hiving Driven Bees (page 74).—Beginners should be warned that this method has its difficulties as well as its advantages. I am free to say this, as I have already upheld the latter. But the practice of leaving a carbolised cloth over them seems risky. Unless the cloth were rather weak, the bees might perhaps be found next morning under the roof, only on the outside of the hive!

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

J. E. B. (Purley).—*Bees and Neighbours.*—The report to which you refer was already passed for press when your letter reached us. With regard to publishing in the B.B.J. sensational reports regarding bees or bee-keeping such as seem to find favour with the daily Press nowadays, it is our custom to give little or no heed to such, though we could multiply our correspondent's "sixteen accounts from different papers" several times over from our "Press-cuttings"——seeing that the bulk of them are mere nonsense from a practical bee-keeper's standpoint. With regard to important bee-cases heard before judges of the land, our desire is to put the *facts* prominently on record in our pages, not the jokes between counsel engaged in the case or the "laughter in court." Nor do we think our correspondent seriously wishes to see the B.B.J. imitating the leading article in the *Daily News* from which he admiringly quotes such passages as: "The highest score against the 360,000 bees seems to have been two stings in one day"! Or: "An infinitesimal proportion of anarchists have brought this vast community into disrepute, costing their owner and his neighbours sums of money scarcely to be covered with a ton of honey"! We are glad to learn that the result has been satisfactory to the parties, and only regret the heavy costs on both sides.

W. H. (Walsall).—*Lantern-slides for Lectures.*—The B.B.K.A. have lantern-slides on bee-subjects for hire on application to the secretary, Mr. E. H. Young, 12, Hanover Square, London, and if you are a member of the county B.K.A. they will be lent at half fees.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

BEE FARM FOR SALE, through death of owner (going concern), large sheds, extracting and bottling house, carpenter's shop, in meadow sufficient to keep cows and poultry, cheap cottage adjoining.—Particulars from THE APIARY, Vernham, Hants. e 54

16 STOCKS BEES FOR SALE, in nearly new bar-frame hives, all strong in bees, £16 the lot, or 25s. each.—STURMAN, Beyton, Bury St. Edmunds. e 50

SEVERAL GOOD WOODEN HIVES FOR SALE, from 5s.—BRADFIELD, 118, Greenvale-road, Eltham, Kent. e 58

ENGLISH HONEY.—Few 28 lb. tins, 7d. lb.; samples, 3d.; also Beeswax, from cappings, 1s. 10d. lb.; samples, 3d.—WAIN, Thorpe Bank, Wainfleet. e 51

ADVERTISER would like to meet others interested in Bee-keeping near this district.—C. H. CRUTTENDEN, Uckfield, Sussex. e 52

"CHAPMAN HONEY PLANT" SEEDS, large packets, 3d. and 6d.—WITHYCOMBE, Docks, Bridgwater. e 59

BOKHARA CLOVER, "Chapman Honey Plant," Limnanthes, Seeds, 6d. packet, 1s. 4d. three, paid.—BAYLEY, Fair-view Apiary, Sellindge, Hythe, Kent. e 55

BUTTER, NEW LAID EGGS, Rabbits, Poultry, direct from farm; satisfaction guaranteed.—State requirements to E. W. CARBINES, Expert, Cardinham, Cornwall. e 52

SITUATION WANTED by Handy Man, assist gardener, understands Bees, Making Appliances.—SHORT, Hanley Castle, Worcester. e 48

EXPERT, with large Apiary, requires gentlemanly youth as Pupil, eventual partnership if desired. No premium if help given. Board, 25s. per week.—"Z.," c/o "Bee Journal." e 47

FOR SALE, Ten Stocks, in Standard-Frame Hives, with lifts, 6 new last season, 13 crates, new, 260 sections, 100 metal dividers, quantities metal ends, super, brood, shallow frames, standard frames, and sundries. No reasonable offer refused, going abroad.—J. RIPPER, Swaffham, Norfolk. e 49

60 LB. OF PURE HONEY, in bulk, for sale, price 30s.; also 8 strong stocks of bees for sale, in new bar-frame hives, new extractor, quantity of appliances.—Particulars of J. BUCK, 1, Queen's-road, Earls Colne, Essex. e 57

2 CWT. HEATHER HONEY, 9d. lb.; sample, 3d. —A. SHARP, Halstead Farm, Barrowford, Lancashire. e 56

WANTED, small Stock Bees, for Observatory Hive, April.—MOIR, 30, Shandon-crescent, Edinburgh. e 62

FOR SALE, 8 Stocks of Bees, in Bar-Frame Hives, healthy, good condition, 10s. each; owner giving up bee-keeping; also "Raynor" extractor, 10s.—GARDNER, 62, Poole-road, Branksome, Bournemouth. e 60

SEVERAL NEW BEE-HIVES FOR SALE, at reasonable rates; also Stocks of Bees; or exchange for bicycle or good incubator.—SWAN, 43, Harwich-road, Colchester. e 61

BEES FOR SALE, in Bar-Frame Hives, also several spare Hives and other appliances. Owner leaving the country early in March.—Apply, H. CLEMENTS, River, Dover. e 45

SWARMS INDEED!! Why bee bothered with Swarms when for 3½d. you can learn how to control swarming, get straight combs, double surplus, 12 years' absolute success; "Never Swarm" Claustral Hives (floor, two 11in. outer cases, roof, brood box, 12 wired frames, dummy), painted three coats, 22s. 6d.; transplanted wallflowers, red or yellow, 10in. across, 20 1s.—HARRIS, Wavendon, Bletchley, Bucks.

Special Prepaid Advertisements.—*Continued.*

"W.B.C." HIVES, painted, complete, from 13s. 6d. List free.—PRITCHARD, Carterton, Clanfield, Oxon. e 2

"ALNWICK" FEEDER, made of wood, zinc, and glass, best and cheapest for all seasons, rapid or stimulative. Price 6d.; postage of one costs 3d., two 4d., six 6d., dozen 10d.—J. BALMBRA, East Parade, Alnwick. e 44

4 STRONG STOCKS HYBRID LIGURIAN BEES, guaranteed healthy, with "W. B. C." Hives, all 1907 Queens this season. Price 27s. each, inclusive; owner removing.—Address, JOBSON, 101, Lordship-road, Stoke Newington, London, N. e 26

WHITE ORPINGTON and BLACK MINORCA, grand typical birds, specially bred for laying and fed to produce strong healthy chicks. Numerous testimonials prove we give satisfaction. Eggs, 15 3s. 6d., 50 10s.; day-old chicks, 6s. doz., 50 £1; carefully packed.—J. HOUSEHAM, Huttoft, Alford, Lincs. e 9

CHAPMAN HONEY PLANTS.—Extra Strong Plants, to blossom 1908, 12 3s., 6 1s. 9d., package free; Seed, 6d. and 1s.—JOHN P. PHILLIPS, Spetchley, Worcester. c 34

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

NEW LEAFLET by F. W. L. SLADEN.

"QUEEN-REARING MADE EASY."

Describes the latest, simplest, and best methods for all bee-keepers. By post, One Penny.

F. W. L. SLADEN, RIPPLE COURT APIARY, DOVER.

WINTER'S WORK MEANS SUMMER PROFIT.

HIVES, &c., IN FLAT.

Most Accurate, Best Value, Best Work.

Joinery work of any description quoted for. Wood for carving. Work made up. Lantern slides, sale or hire. Catalogue free.

W. R. GARNER,

"Beatall" Hive Works, DYKE, BOURNE.

FOUNDATION.

Dealers and Bee-keepers will see the above trade marks stamped on every original package of Root Weed, and on slips within every such package, from the 1 lb. to the 50 lb. size.

"WEED" excels all other Foundations in pureness, with impossibility to communicate foul brood germs, toughness, and consequent cheapness, facility of handling at all times without breakage, and acceptance by the bees. These claims are now copied by vendors of other imported foundations which, not being made on a Weed machine, cannot possess them, and these copies but prove how such qualifications are esteemed.

The A. I. Root Co. request dealers to send in their orders for Bee goods. Those ordered in early autumn are now on the way over, and orders sent in this month will be in time for a second import to London about being made up.

"WEED" Foundation, Sections, Frames, and Separators are now in Stores at London and Liverpool.

W. BOXWELL,

36, Beresford Road, Canonbury, London, N.

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The

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR.

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

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Editorial, Notices, &c.

ROBBING AND ITS CAUSES.

An interesting article on this subject by "W." appears in the *Bulletin de la Société Romande d'Apiculture*, in which the writer says every bee-keeper will have noticed either attempts at robbing, or this organised in a more or less brutal form, the remembrance of which leaves a painful and lasting impression. The experienced bee-keeper does not need to see the bees in the act of robbing; he can hear from a distance, the menacing noise the bees make at such times being quite distinct from the joyful hum of those that are working contentedly. Robbing is theft by violence, which in bees is started under certain circumstances. The writer lays stress on the fact of the robbing instinct being aroused, for bees at normal times attend to their occupations and quietly collect food for the benefit of the community, while nothing seems to turn them aside from so doing, and woe to any would-be intruder that shows itself at the door of their home. Sometimes, however, without any apparent cause and at a given signal, the bee is ready to give up her peaceful labour and take her share of a marauding feast that is being prepared for. The agitation is communicated to the whole colony, and soon hundreds of bees have joined the pioneer in her pillage. The question arises—What has happened to change the quiet, laborious worker into a murderous thief? It is manifest that a dormant instinct has been awakened, and it is well to ascertain if possible the cause of the tumult. There are three methods of robbing:—(1) Robbing by agreement among the bees themselves; (2) external robbing, *i.e.*, taking the robbed bees by surprise; and (3) direct robbing with violence.

1. The first is practised on a colony which offers no resistance whatever to the attack; indeed, one could well suppose there was some mutual agreement on the part of the bees themselves to transfer peaceably and without noise the stores from the robbed hive to that of the marauders. The robbed colony is, however, generally weak and without energy, or is lodged under unsuitable conditions. Instead of offering any resistance, the bees of the hive attacked appear to fraternise with, and even aid, the intruders in their robbery. Yet all this goes on quietly and without any uproar.

2. External robbery is also accomplished noiselessly, and only takes place at certain times during the year. It is known that, in addition to the principal honey-flow of the year, there are small gatherings either before or after. At such times robber-bees may be seen stationed on the alighting-board near the entrance awaiting their victims. As soon as a well-laden worker arrives home with her load, two or three of the awaiting robbers fall on her, quietly seize the incomer, and compel her to disgorge the contents of her honey-sac. It is curious to notice the quiet way they set about this task; there is no violence, no noise, only just sufficient coercion as will attain the desired result. This achieved, the poor worker is released and allowed to return to her work in the fields, or perhaps make what appears to be a sort of complaint to the guards at the hive-entrance; but, so long as the attention of the latter is not aroused, this sort of robbing continues. When this deliberate method of looting is realised one sees a scramble on the alighting-board, and the intruders are driven off without ceremony, and for some days afterwards special care is taken to prevent any repetition of this kind of robbery.

3. Direct robbing with violence is by far the most dangerous of all the forms of plundering under consideration. It is always caused by a colony being weak and incapable of repelling an attack. Queenless colonies provoke the robbers to the most daring and malicious onslaughts. Knowing the stock to be demoralised through loss of the mother-bee and the consequent failure of brood-rearing, they attack it in companies, with such determination that obstacles placed in their way only appear to make them still more aggressive in overcoming them. The ordinary means used to stop the aggressors, such as water and smoke, &c., may prevent the trouble for a brief space, but the robbers persist in returning in greater numbers and with increased violence. If the entrance be closed entirely, they surround the hive, endeavouring to find some crack or fissure by which they can enter, so that when once the siege has commenced they will not raise it until the hive is emptied of its stores or is removed entirely out of the way. It is strange that contiguous colonies often remain perfectly quiet while this pillage is going on, and this can only be explained by the fact that the robbers appear to know for certain that their victims are unable to defend themselves, and this condition prevents them for the moment from seeking a refuge elsewhere. It does sometimes happen that the bees of the whole apiary become excited at the commotion, and this brings about a general attack all round, ending in the most painful experience that a bee-keeper can possibly have.

The writer then proceeds to consider the various causes that induce robbing.

Among these are a temptation to rob caused by the fact of there being honey or sweets in a hive; the introduction into the hive during the day of a comb containing, or wet with, honey; and feeding during the day while bees are flying freely. In such cases the fault rests with the bee-keeper, for all bee-books and bee-papers caution him against such proceedings. Another and more important reason—though frequently ignored—is queenlessness, or a feeble and discouraged colony with little brood and a decrepit queen. Knowing the cause, some are led to ask—Is it possible to stop the evil without much trouble? Not always; but the first thing is to try to check it at the beginning by narrowing the entrance and placing a piece of glass in front. In some cases this succeeds, but if the colony is queenless or too weak, it is more difficult, and the bee-keeper is loth to see his colony robbed-out without trying every expedient to arrest the evil. The different means employed have already been mentioned, although at times they prove ineffectual. The only effective way is at once to remove the hive attacked into a cellar or other place where bees cannot get at it. The colony (probably too weak to defend itself) can then be united in the evening when peace has been re-established with a strong colony capable of resisting attack. There will be one less colony, but the bee-keeper will avoid the frightful spectacle of general robbing and massacre in the apiary.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

AMONG THE BEES.

PLANTING FOR BEES.

Aye be stickin' in a tree;
It'll be growin' when ye're sleepin'.

[7022.] This sentence, pregnant with true wisdom, is the motto of the Royal Scottish Arboricultural Society. Bee-keepers all over the country should profit by its wise teaching and endeavour to carry out its sage behest, "Aye be stickin' in a tree." Few bee-keepers possess so much ground as to be able to plant trees extensively, but almost every man and woman who can call a hive his or her own can do something in this line, and, as the old Scotch proverb has it, "Every little makes a muckle." In almost every garden there is room for some apple and some pear trees. Most people can also add to these a few plum and cherry trees. The blossoms of all four are greatly beloved of the bees. The delightful hum at times heard in even a small orchard, amid a wealth of spring-fruit bloom, should cheer and charm the heart of every true bee-keeper.

No garden, even the smallest, is complete without a number of fruit bushes, and fortunately all of them yield both nitrogenous and non-nitrogenous food for *Apis mellifica*. Gooseberry bloom is rich in both, black currants yield bountifully, red and white currants may be set down in the same category, raspberry honey is a choice dainty, and in the cultivated form, as well as when it grows wild as planted by Nature, the flowers are much patronised by bees of all sorts and conditions. In many parts of Scotland—notably parts of Perthshire and Forfarshire—where hundreds, or even thousands, of rich arable acres are planted with raspberries, the honey is a very valuable asset.

Outside the garden many trees and shrubs yield bountifully in a fine season, many of them being among the first sources of nectar in the early spring. Barberry, whitethorn, and blackthorn all receive attention. The willow tribe, self-sown or planted, proves a great acquisition in the early part of the season; at times the flowery catkins are fairly alive with bees busily loading up both honey and pollen. The blackberry or bramble grows freely in every shrubbery if allowed full play, and is rich in nectar. The golden flowers of the laburnum supply a golden store of golden dust, and the may a fine, snowy powder. The hawthorn of our hedges flowers freely, and, although its honey is harsh and acrid, it is beloved of the bee; and so is the peculiar-flavoured flow from the privet, which the bees turn into young imagos with as great pleasure as if it were the finest Narbonne. Scores of other shrubs might be named, all rich in bountiful stores of nectar or pollen. On our wide moors and wastelands what a wealth of broom bloom is displayed in richest profusion during May and June, yielding perhaps a little honey, but undoubtedly supplying a superabundance of aromatic pollen of brightest golden hue. Then our fields of

whin or gorse are almost perennial bloomers, rivalling the ubiquitous daisy in its almost never-ending bloom, for the flowers are to be seen from January to December.

Out in the woods a multitude of trees might be named whose bountiful blooms provide less or more nectar to the toiling millions eager for a dip into their luscious and tempting sweets. Perhaps at some future time a full list of these mellifluous trees may engage our attention, but at present a few must suffice. Early in the season the plane or sycamore (sometimes called the maple) comes at a time when the bloom can supply the best stimulative feeding the bees could desire. Perhaps the prince of all flowering trees is the lime, with its innumerable close clustering flowers, almost dropping nectar under the most favourable circumstances. The basswood of America is acknowledged to be one of its richest sources of nectar —our lime is at times a close rival. The horse-chestnut, with its wide-spreading branches all gaily decked with innumerable flowers, exhibits a tempting field for foraging. Ash trees in their varieties entice at least a passing call, and it may similarly be said of many others that bees patronise them at times; but, with the exception of a few, *Apis mellifica* loves to tap more bountiful stores. Wealth of bloom or fair form of flower is neglected for the most modest floret found to be rich in nectar.

Now bee-keepers may say individually we are but atoms, yet what is matter made up of but atoms. A bush or a tree may be small and insignificant, but a wood, or even a mighty forest, is made up of individual trees. Therefore every tree planted helps the good cause.

In considering this question one has to remember that the present generation in planting trees may not reap of what they have sown (or planted), for many trees take over twenty years before they flower. But private enterprise could be largely supplemented by public effort, and, fortunately for bee-keepers, the timber of many of the best bee-forage trees is valuable, and, moreover, they are handsome and taking in their habits of growth. Many large corporations all over our islands expend large sums in lining streets and avenues with the umbrageous shade of trees, and undoubtedly flowering trees are desirable in such situations; so much might be done in many a town and village to secure an "Unter den Linden." Bee-keepers, who are so much interested, might bring their united influence to bear in securing this desirable consummation. A word in season to an alderman or town councillor would work for good.

Estate managers, proprietors, and their foresters might also be approached, and, if sympathetic, might do much to aid the good cause, because they plant in quantities to tell. I lately had the pleasure of being shown through a ducal park, where I was told over forty different specimens or varieties of flowering trees and shrubs supplied a rich store of nectar as free, remember, to the humblest cottar within a bee's flight as to his Grace. Just the other day I learned that an active offshoot of one of the English county associations has taken up this very subject of planting extensively for bees, and the chairman of the B.B.K.A. dealt with it in his speech at Taunton.—D. M. M., Banff.

ISLE OF WIGHT BEE-TROUBLE.

[7023.] Mr. Atkins, in his interesting letter last week (page 85), is fully justified in asking for guarantees that the bees sent to the island should not be wasted.

The island bee-keepers have exhausted their list of measures in dealing with the trouble, and would welcome any new and practical suggestions as a condition of being restarted. As an example of what has occurred, a Shanklin bee-keeper wrote me a year ago as follows:—"We have tried spraying, disinfecting, feeding with Izal, Naphthol beta in syrup, cleaning hives thoroughly by scorching the interior with a painter's lamp, wintering on natural stores, and also on cane-sugar medicated with naphthol beta, and also with Izal, sulphuring, re-queening, and importing fresh blood from the mainland, but all perished alike in the same way." Another bee-keeper, with thirty years' experience in the island and in Surrey, and who is also familiar with bee-keeping conditions in Switzerland, told me he had exhausted every possible means of finding a solution at the time his twenty-eight stocks were gradually dying off.

Mr. H. M. Cooper has taken no end of trouble over the question, and has been considerably surprised at the apathy of British bee-keepers to such a grave danger at their doors. Mr. Cooper, too, has exhausted his list of theories and experiments, and finally organised an influentially signed requisition to the Board of Agriculture asking for assistance in finding out the cause of the bee-trouble. As is known to B.B.J. readers, the Board appointed a skilled bacteriologist, Mr. A. D. Imms, of Cambridge University, to investigate the subject, and his report with illustrations appeared in the B.B.J. of July 18 and 25 last year.

Among those who have lost all their bees are experts of the B.B.K.A. and a former student of Swanley College.

Personally, I consider the islanders have

failed hitherto in doing their best effectually to destroy those hives wherein the bees have died. In one case last May I found seventeen hives in an orchard with all the bees dead, which had been a flourishing apiary less than a year before. Every one of these hives contained more or less honey, and no attempt had been made either to close the hives or remove the combs.

It is my purpose to make it one of the conditions that those who receive bees shall not only thoroughly cleanse and scorch their own hives before using, but do their utmost to ensure the destruction of all combs in the hives of their neighbours wherein the bees have died within a one-and-a-half or two-mile radius, in order to reduce, as far as possible, any chance of the bees robbing deserted and diseased hives.

Recipients would be put in direct communication with the donor, and any reasonable and practical suggestions would no doubt be willingly adopted.

Every stock or swarm sent to the island is in reality an experiment from which valuable information may be gathered, and it is the duty of British bee-keepers to demonstrate by the planting of fifty or sixty stocks in the Isle of Wight whether bee-keeping can flourish after such a sweeping scourge as that which has visited the island.—JOHN SILVER, Croydon Grove, Croydon, February 29.

THE ISLE OF WIGHT BEE-FUND.

[7024.] I should like it to be understood that I in no way object to the distribution of such funds and stocks of bees as may be subscribed for the Isle of Wight bee-keepers being entrusted to Mr. Silver. The knowledge that he acquired on his business tour is most valuable, the more so that the remarkable self-effacement of the Hants and Isle of Wight B.K.A. leaves us otherwise quite in the dark, and we should very gratefully accept the offer of his further energies; but I must still emphatically demur—and in this I believe I shall be supported by our most practical bee-keepers—to any stocks or swarms being distributed except where a recognised expert has certified a clean bill of health to the apiary concerned. We are in face of a serious outbreak of disease, which is, as far as can be gathered, communicable from hive to hive, or at all events appears to attack apiaries indiscriminately. It has devastated the island and threatens our whole bee-industry. Are we to add fuel to the fire?

It may be assumed that if Mr. Silver's bee-keeping experience had been at all extensive he would have mentioned it amongst his qualifications. On the other hand, he has traversed the scene of misfortune, has interviewed the sufferers, and is impelled by a kindly desire to relieve them; the sooner, he thinks, the better. Now to me the individual losses are as nothing compared with the danger of perpetuating and probably spreading the disease. We do not know how to cure it; in the name of common-sense, then, let it die out where it may. When Mr. Silver writes of the advantage to be gained by treating the distributed stocks in various experimental ways he actually seems to contemplate that they will in their turn become diseased. I should be sorry to misinterpret him, but what else can he mean, seeing that the way to maintain the health of a healthy stock is to place it in ordinary healthy conditions, well known to every good bee-keeper, and then to leave it alone as far as possible?

Healthy stocks to healthy apiaries: let us stand by that. The island is small to a strong bicyclist, there are few of our experts who could not get over it in a short time, and from what I know of them I have no doubt that volunteers will be forthcoming to undertake the inspection at little cost beyond their own expenses, and economising time and labour by previous arrangement with Mr. Silver. This part of the matter does not press, but it is important that it should be known now what funds will be forthcoming. Mr. Silver very properly suggests the appointment of an auditor. Perhaps when the time comes for it the local association will go so far as to provide one.—H. J. O. WALKER (Lieut.-Colonel), Budleigh Salterton, Devon.

[We quite agree with Colonel Walker as regards gladly accepting any services Mr. Silver is willing to render in the way of increasing the list of donors, and as soon as his list of gifts, either in money or bees, has reached the stage when its publication is considered by Mr. Silver to be desirable, we will give it space in our pages.

We have just received a note (not intended for publication) from an old reader of the B.B.J. who is an experienced bee-keeper, whose remarks apply so pointedly to the question of sending swarms to the Island without strict precaution, that we insert an extract, which reads as follows:—

"I am moving my bees this week down to the Isle of Wight. I know you will say it is risky, but I must take it, having no choice. I have lately seen several stocks down in the part I am going to left just as they have died out. The owners promised me to burn the frames, &c., and allow me to disinfect the hives when I am there. What, I ask, can be the use of Mr. Silver and those who agree with him sending bees down there while bee-keepers in the island allow that kind

of thing to go on? None of the hives I saw were out of sight of the road, so there is no excuse that way.

"I write this in support of what our Editors have said in the B.B.J., and in confirmation of Colonel Walker's opinion, rather than for publication."

EXHIBITS AT LEADING SHOWS.

SCOTCH EXHIBITORS AND ENGLISH PACKERS.

[7025.] I have waited for some time in order to allow free scope for the correspondence initiated by "Bee-man, Scotland," on page 14 of B.B.J. for January 9, and continued by various interested readers in subsequent issues, before thinking of making any reply myself. But, after reading the editorial footnote on page 14, and a subsequent letter from "Bee-man" in B.B.J. of January 23 (page 36), it became clear that the "expert" whose "ability" as a packer of exhibits aroused the mirth of our Scotch friends was none other than myself. Let me say, then, that, without having any knowledge of either "Bee-man" or of his friend, "Queen of the South, Scotland" (whose letter appears on page 37), I question whether they have ever exhibited at "leading shows" in England, it being admitted that in neither case was the damaged honey their own property.

However, I will give the simple facts connected with "Bee-man's" complaint as recorded on page 36. The box arrived at the show-ground, Lincoln, with "This side up" on it as stated, but for some reason, maybe, of his own, the *expert* Scotchman at the other end had nailed the "This side up" label on the *bottom of the box*, and the railway company, probably not understanding Scotch methods, had read the label and kept the box *wrong way up* during its long journey to Lincoln. The result was that the glass jars had to be washed, as dozens have to be at all shows. Hence their clean condition on the show-bench when the judges commence their task. This would account for the box arriving back in the same condition, for, although the assistant called my attention to the mistake in the first instance, the press of work caused it to be overlooked on the return journey.

From "Queen of the South's" letter one would imagine that exhibits are returned to the boxes by means of a "shoot," and that the jars of honey had been trodden down to get them in the box, or that English experts are unable to distinguish between the top and bottom of a jar!

Unfortunately, there are thieves among railway servants, as the stewards know to their cost, and if the jars were in the condition stated, it may have been a case of disturbed pilferers. Referring to your correspondent's kindly hint that we should "start early and take time to re-pack long-distance exhibits first," may I offer him a cordial invite to the "Royal" Show at Newcastle next June, when he will find us at work in the small hours of the morning, and late at night, too, in order to get done in anything like time. As to giving preference in packing, I make no distinction, but treat all alike, as he would at leading shows like those in question after gaining experience.

Our friend "Bee-man" makes sundry remarks on page 14 about "Scotch bee-men" being deterred from exhibiting at leading shows in England on account of bad re-packing. How far either he or any other Scotch bee-man has had the opportunity of judging of our capabilities in this respect for the last seven years the following table will show. Figures are hard to get over, and those given can be verified by reference to the catalogue of any of the shows mentioned:—

Year.	Confectioners'	Grocers'	Dairy Show.	"Royal" Show.
1901	168	226	—	—
1902	149	143	130	—
1903	124	170	124	—
1904	107	114	121	243
1905	153	243	123	168
1906	191	164	117	216
1907	164	192	66	285

(I cannot give the returns for 1902 and 1903, not having the catalogues for those years by me.)

In the above table we have a record of twenty-four leading shows, where the entries reached the big total of 3,901, with less than a dozen exhibits from Scotland among them. Twenty of the shows named were held at the Royal Agricultural Hall, London, the other four being connected with the Royal Agricultural Society. Yet on one or, say, two instances of supposed misdoing connected with exhibits (covering a period of seven years) your anonymous correspondents have formulated an indictment against English experts as honey-packers for which I hope to have shown there is not a shadow of foundation.

Yes, it is about time (as "Bee-man" remarks on page 16) that someone wrote about the methods of packing, but the writing should take the form of exposing the carelessness or worse on the part of exhibitors rather than of those who have to undergo the labour of re-packing. I could fill columns by simply quoting cases. Some are nailed up and packed as if the goods were going to Australia, while others are hardly

packed at all. I will let one case suffice for quoting here as a specimen of preparing for the show-bench—and that from Scotland! An exhibit of sections arrived at the Grocers' Exhibition held at the Agricultural Hall, London (for staging in the class for heather sections), just as they had been removed from the hive, the rack and sections smeared all over with propolis, and a few dead and living bees among the sections. The rack was merely wrapped in brown paper, with a couple of pieces of string tied round it. How it managed to reach us at all I cannot imagine, but it was in a complete mess when it did arrive.

I think it will be admitted by all exhibitors that my experience in dealing with exhibits at leading shows is exceeded by no one in the kingdom, and in my opinion a rule should be made that no exhibit will be unpacked unless it arrives in a proper box, viz., one in which it is only necessary to undo the lid, and lift out or drop in the jars, as shown in the "Guide Book" (page 91). Boxes of the right kind are easily made, or can be bought cheap, so there is no excuse for not using them. It is totally unfair of an exhibitor to spend a couple of hours in packing an exhibit at home where time is of little or no value, and expect those who do the staging to spend the same amount of time re-packing it. It is an utter impossibility, as the work would never be got through. Mr. Crawshaw's closing question in "Cappings" (page 60) is a very pertinent one. He says: "Which is the more expensive, smashed exhibits or the purchase of a proper box?"

I am grateful to your correspondents "H. H., Co. Cavan" (page 56), "Third-class Expert, Berks" (page 24), and also Mr. and Mrs. Pearman, Derby (page 44), for their opinions. These are practical people who see something of the work and know what we have to put up with.

May I also be allowed to say that with regard to Mr. Pearman's complaint (on page 44), Scotchmen have some real grievances to put right at their own shows? I have in my possession several letters from a prominent winner at Scotch shows asking me to purchase *at any cost* the *first-prize* lots at London shows, but I need hardly say they have never been "for sale" *to him*. Only last autumn I saw a Scotchman purchase half a dozen jars of prize honey, and he calmly told the exhibitor from whom it was purchased he should keep it twelve months, when it would be his *bonâ fide* property, and he could exhibit it as his own.

I also have a vivid recollection of seeing a Scotch exhibit of comb-honey at the Crystal Palace labelled "Disqualified as not being honey but sugar-syrup"! I ask, can either "Bee-man" or "Queen of the South" quote instances like this of English exhibits in Scotland or Scotch exhibits in England being treated as Mr. Pearman's was? I cannot agree with the latter in desiring to make the acquaintance of either "Queen of the South" or "Bee-man." I feel sure they are exceptions to the rule amongst bee-keepers; indeed, I have dozens of letters from exhibitors thanking me for slight trouble expended on their behalf, and it is owing to such encouragement that we carry on the work cheerfully under the most trying conditions.

If the secretaries of all shows would combine and insert a clause in the rules that exhibits be sent in proper cases or boxes, they would earn the gratitude of all stewards and save many grey hairs.

In conclusion, and as it is possible that this letter may call forth others, I wish it to be clearly understood that I have neither time nor inclination to enter into correspondence with readers on the subject, therefore this is the only communication I shall make.—W. Herrod, Expert and Lecturer B.B.K.A., "W.B.C." Apiary, Luton, Beds, February 18.

A COUNTY ASSOCIATION FOR SUSSEX.

TO SUSSEX BEE-KEEPERS.

[7026.] I was much interested in your reply to "K. C., Sussex," in last week's B.B.J. with regard to re-establishing the old Sussex B.K.A. There is no doubt that a county association for Sussex would be a great help to all bee-keepers here, and I, for one, should be very glad to see it formed. Will you allow me, through the columns of the B.B.J., to appeal to Sussex bee-keepers with a view to getting their practical support in the matter? A meeting might be called in some convenient centre, when the whole question might be discussed and the association fairly started; and there is no better time than the present. As a home county, near the great market of London, Sussex should be especially interested in co-operation, and there ought to be no difficulty in getting members.—Tickner Edwardes, Burpham, Arundel, Sussex, February 22.

FRAUD IN THE BEE-TRADE.

[7027.] The majority of bee-keepers are, I believe, honourable in their transactions to the world at large, but there are some who require strict watching in regard to commercial affairs. We have all heard of the sale of foreign honey at a low rate

as British. In excuse, some of these offenders allege that honey from a British Colony *is* British. It may be in a sense, but the ordinary man understands by the term a product of the United Kingdom. Some bee-keepers, under the mistaken idea that genuine British honey was offered at 45s. per cwt. or less, have sold the real article at that figure to their loss.

Much dishonesty also prevails in the sale of stocks of bees, both on frames and in skeps. It is common to describe a miserable lot of bees covering less than two frames as a "stock on eight or ten frames." It is an easy matter to insert half a dozen combs in such a hive, and describe it as a stock on ten frames, but it is a downright fraud and a lie. A stock on eight frames should mean one containing enough bees to cover eight frames.

Similarly, in the autumn a small lot of bees are driven into an old worn-out skep containing ancient combs; it is fed slightly, and sold in the spring as a stock in a skep.

Where the buyer parts with his money before receiving the bees he will have some trouble in getting any recompense. The Deposit system is a great safeguard, and should be made use of in all cases where there is any reason for uncertainty. The seller who objects to this method of payment should be suspected of an intention to deceive. Any man who has honest value to offer should not object to send it on approval. The buyer of goods in every case where the Deposit system is not used should insist on receiving the goods before he pays; if he sends his money he may never see it or the goods, or may get in return a lot of worthless rubbish. The sender of goods such as bees undergoes little risk, as they are not fluid like honey, and cannot be easily made away with. Honey, however, should not be sent unless under the Deposit system. It is too easy to dispose of by a dishonest receiver.

Another trick of the dishonest bee-keeper consists in getting a skep full of bees and brood and driving the bees out into an old skep containing empty combs. He then feeds up the driven lot for a few days, and sells it as a stock early in the season, using the original skep for doubling purposes on a frame-hive in his own apiary.

The exposure of these unprincipled tricksters will, I hope, help to checkmate many of them in the future. He who advertises anything for sale should state nothing but the truth, and should indulge in no shape or form of cheating. A man who respects himself will not demean his nature by stooping to defraud his fellows. Of course it is easily possible for a man to sell an inferior stock quite innocently at a time of year when he could not look inside, but such cases are almost nil. At the same time the seller should know the condition of everything before he sells it, and sell it on its merits only, but some so misrepresent the facts as to actually render themselves liable to the law.—W. J. FARMER, Redruth.

FIXING FOUNDATION IN FRAMES.

A NEW AND SIMPLE METHOD.

[7028.] Seeing that some of your correspondents appear to have difficulty in obtaining perfectly straight combs with the use of full sheets of foundation in brood-chambers, I herewith send a few notes explaining how I have fixed my foundation for years past to my entire satisfaction. I use double wires for the

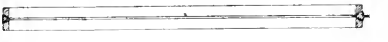

FIG. 1.

purpose and dispense with the embedder commonly used. I send a couple of sketches to illustrate my method of wiring the foundation, which I trust will be simple and explicit. I only ask that the method be called "Grose's device for fixing foundation." By referring to the sketch Fig. 1, which gives a section of the end-bars, it will be seen that the holes are bored at an angle meeting on the inner side. After the wire is passed through

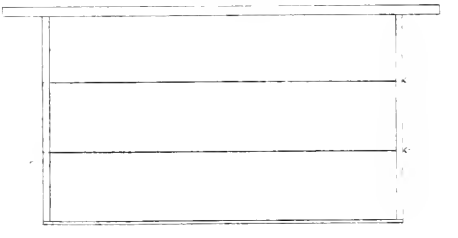

FIG. 2.

the holes and foundation is put in place, the ends of the two wires are held in the hand and the frame is revolved to tighten and fasten the wires and straighten the foundation, as in Fig. 2. I send name and sign—CORNISH BEE-KEEPER (of thirty years' experience).

"CHAPMAN HONEY-PLANT."

[7029.] In response to your request (on page 66) for the opinions of readers with regard to the value of the "Chapman honey-plant," as a constant reader of the B.B.J. I should like to say that in November, 1904, I applied for a little seed of the above, having seen the offer of free seeds in B.B.J. at that time, and duly got some.

The seeds were sown in the spring of 1905, the seedlings being transplanted in the autumn, and in the following year they attained the height of 10 ft. 6 in., and the way my bees were attracted by the profusion of blossom well repaid me for the trouble taken with the plants. It was not the actual money gain, but in having grown something that was being appreciated by the bees. I sincerely wish I had had an acre or two of them near me last season, which was with me what we term a "bad egg" so far as regarded surplus or stores. It has been bee-*keeping* with a vengeance, for I have had to keep the bees. I must say, however, that during my experience of eight years with the frame-hive I have had a very good time, especially in the years 1905 and 1906. I enclose photo of my apiary, and if you think it good enough for a place in "Homes of the Honey-bee" I will send a few notes to accompany same. Wishing success to the B.B.J. and to all fellow bee-keepers a right busy time during 1908, I send name, and sign—SWEET-TOOTH, Durley, February 17.

[The photo will do very well for a tone-block, so kindly send on "notes" when convenient.—EDS.]

Queries and Replies.

[3667.] *The Isle of Wight Bee-disease.*—Will you kindly say what is wrong with enclosed bees? I have four stocks in all, the bees in two of which in October last covered eight frames in each hive. They had plenty of sealed stores, and both had a 2-lb. cake of medicated flour-candy, in addition to the stored honey. The hives were packed with paper round the body-box, with two quilts and a cork-dust cushion on top. Since the new year turned the bees have been coming out, and, being unable to fly, have perished on the alighting-board and ground. They were flying well in December last, and seeing the way the bees were suffering I thought they were chilled; but my wife had observed the bees of my other two stocks flying the same day, and there were no dead bees on their flight-board. I therefore thought something was wrong, and lost no time in clearing the entrance of dead bees, when there came forth a lot of angry bees with a rush, but not one could fly or even flap its wings. On the last fine day prior to this an examination of one of the affected hives showed plenty of stores and several wax-moth grubs; but there was only enough bees to cover two frames, with a small patch of brood in centre. Some cells had two or three eggs in each. I also saw a queen-cell capped over, but rather smoother than others I have seen. Am writing to ask:—1. Do you think it can be the Isle of Wight disease? 2. Is anything wrong with the candy, of which I enclose a sample? 3. Has the hive I examined lost its queen and a laying worker taken her place? 4. Can I do anything to save the stock which is still strong in bees? 5. What race of bees are they? I may say the combs in hive were all perfectly clean. I send my name, and sign—PUZZLED, Ryde, Isle of Wight.

REPLY.—Before replying to your queries seriatim, we may say that while there is nothing in the appearance of dead bees to indicate the cause of death, the fact of you having given both the stocks flour-candy when packing for winter may have done much towards causing the mischief that followed. If the bees of the two stocks in question partook largely of the candy given it might in some measure account for the inability of the bees to fly in cold weather, owing to the intestines being overloaded. Feeding on nitrogenous food necessitates frequent cleansing-flights, and these cannot be taken except at rare intervals in winter; consequently candy heavily charged (as your sample is) with pea-flour is quite unsuitable for winter food. Used, as it is, mainly for stimulating breeding, it should only be given in "flying weather," as the term goes, and you have made a mistake in using it in winter. It was also an oversight on your part not to keep the hive-entrances cleared at regular intervals by drawing forth any dead bees on the floorboard by means of a hooked wire. The outrush of bees from the hive mentioned showed that the entrance had become blocked up by dead bees, and many colonies have been known to perish from this cause.

We reply to the queries enumerated as follows:—1. The stocks may possibly be affected by the disease named, but we cannot say with certainty. 2. Our opinion on this point may be gathered from what appears above with regard to flour-candy in winter. 3. You can see this for yourself by drones being reared in worker-cells among the patch of brood seen in the hive when examined. 4. Nothing beyond making sure that there is "plenty of food in the combs," as stated, and taking away any of the flour-candy that may be left. 5. The bees are ordinary brown natives.

[3668.] *Closing Hives Temporarily without Risk.*—Can you tell me in next week's B.B.J. if there is any way of closing hives for a part of the day without harming the bees? Our gardener has fruit-pruning and other work to do which he must do round the hives, and the bees sting him when he is so engaged. I tried one day closing the entrances with straw

early in the morning and leaving it till the afternoon; but it angered the bees, and several escaped. When I removed the straw some were in the entrance-way dead. At one time when the obstruction was removed the bees came streaming out as if they wanted air, though before stopping the entrances I had taken all the wrappings but one off the top of the hives to give air, and had put the straw in lengthwise. I should be very glad if you could tell me a way to manage, as I cannot keep my hives in any other place.—HILDA TURNER, Stourport, February 24.

REPLY.—Yours is a case where the claustral detention-chamber would be of service; but apart from that, we see no reason why your gardener should not be able to do his pruning and other spring labour if a cool, dull day is chosen for the purpose, and he goes about his work quietly and in the early hours of the day. We know of many cases of gardeners who do this without any trouble following; but some gardeners have somehow a natural antipathy against bees, and when this is the case the feeling is reciprocated by the insects. We also fear you have not used sufficient care in stopping up the entrances; they should at least have been opened full width for air and covered with perforated zinc, and in no case so dealt with except on dull, cold days.

[3669.] *Using Observatory-hives.*—I have a three-frame observatory-hive, and will be glad if you will let me know through your valuable journal: 1. When is the best time to stock it for observation purposes? 2. Is it safe to leave the bees in the observatory-hive during the winter? It is intended to be placed in a school-room heated with ordinary fires.—G. E. H., Campden, Glos., February 24.

REPLY.—1. A three-frame observatory-hive is only intended to be used on the show-bench for a day or two at a time, during which period the bees are confined to the hive, and this is as long a time as it would be safe to keep them in your case without allowing them a chance of flight. 2. There are observatory-hives in which eight or more frames are hung, as in an ordinary brood-nest, with facilities for drawing the frames out for observation; but in such hives the bees are given the same chances of flight at will. This is the only form of observatory-hive in which the bees are kept winter and summer.

[3670.] *The "Alexander Method."*—As a constant reader of the B.B.J. I shall be very thankful if you would explain to me through your valuable paper the "Alexander method" of securing straight, even brood-combs with established stocks. Mention is made of this method by Mr. J. M. Ellis in B.B.J. of January 23 (6979). Thanking you in anticipation.—ROBERT JOHNSON, Harrogate.

REPLY.—We think Mr. Ellis had in mind the "Alexander method" as a whole when referring to it on page 37; and an account of it appears in the B.B.J. for May 25, 1905, page 262, under the heading "How to Increase our Stocks while Controlling Swarming."

[3671.] *Forming Nuclei after Swarming.*—If a strong hive swarms, and I want increase, can I hive the swarm on empty combs and divide the parent hive into, say, six nuclei with a ripe queen-cell to each, and then in the evening add (to each nuclei) one or two combs and bees from the swarm, and expect the "swarmed" bees to stay with the nuclei the next day? In short, will a ripe queen-cell satisfy the "swarmed" bees in place of the old queen? Your reply will oblige—RICHARD BAYLY, Plymouth.

REPLY.—We advise you not to deal with the swarm and parent hive in the manner detailed above, for several reasons. Among them, we may say it is quite certain that bees taken from the swarm the same evening and placed in the several nucleus colonies would not stay there, but would return and rejoin the swarm on the old stand. Your best plan will be to follow the course recommended in the "Guide Book," for you would have a small chance of dividing the combs and brood of the parent hive into six nucleus colonies with any reasonable chance of success.

[3672.] *Prospects of Bee-keeping in British Columbia.*—I shall be much obliged if you will let me know through the B.B.J. whether you are acquainted with anyone with whom I might get into correspondence about bee-keeping in British Columbia? I am going to that part of the world soon, and should like to learn something of the prospects and cost of starting in the industry there. I am aware that there is a *Canadian Bee Journal* published, but imagine I may get the information required more quickly through your kindness.—V. T. RUCK, London, E.C., February 25.

REPLY.—Our knowledge of British Columbia as a bee-country is limited, but an interesting account of an apiary located at Vancouver, in that colony, will be found on page 85 of the B.B.J. for February 28 last year, illustrated with a view of the apiary of Mr. E. Hancox, who was a reader of our pages some twenty-five years ago, before he left the Old Country for British Columbia. The account was written by his son, Mr. David Hancox, Deddington, Oxon, himself an old reader of the B.B.J., who would no doubt supply any information in his power if written to.

[3673.] *Icing Sugar for Bee-food.*—Seeing that icing sugar (pulverised) is mentioned in your advertisement columns, may I ask if this is intended for bee-food? If not, would it be injurious given in small quantities—say 4 oz. to 12 oz. of loaf sugar? I should also like to take this opportunity of thanking Mr. Fisher for his article on the properties of honey (page 63), and feel sure that Mr. Crawshaw, who comments on same in "Cappings" (page 89), must feel that his conclusions are quite reasonable.—S. G., Illingworth, Halifax, February 2.

REPLY.—Icing sugar is not intended for bee-food; nor should we care to use it for that purpose. It contains a certain amount of starch, and as used for icing confectionery the surface becomes hard, and that is just what is not wanted in candy-making.

[3674.] *Starting Bee and Poultry Farm.*—Being anxious to commence a bee and poultry farm, will you kindly give me information, as far as possible, on the following points, which I shall esteem a very great favour? 1. Which is the most suitable district for the above purpose? 2. How much capital will it take to start a business of the above description? 3. What is the earliest time in the spring a Carniolan queen-bee can be purchased? Name sent for reference.—HOPEFUL, Leicester.

REPLY.—1. Some districts in the counties of Kent, Berks., Hants., Sussex, Herts., Essex, Cambs., Hunts., Surrey, and others are suitable for bee and poultry farms; but it would need personal inspection, supported by expert advice on the spot, in selecting the most suitable location for your purpose. 2. We consider that £250 would be needed at least to make a fair start. 3. Surplus Carniolan queens bred in the current year cannot be had earlier than May, and then only at high prices.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

E. A. R. W. (Norfolk).—*Transferring Bees from Old Combs.*—1. Since you already possess a copy of the "Guide Book," we need not do more than refer you to pages 149 to 151, where the method of allowing bees to transfer themselves is fully dealt with, and in your case it will only be necessary to substitute the brood-chamber of your frame-hive for the straw skep shown in the illustration (Fig. 107). The details will apply equally well, or better, as the old brood-chamber may remain on the new hive as a surplus-chamber for extracting at the end of the season. 2. Feeding with well-made syrup, given slightly warm, may be adopted now if stores are short.

F. BRADSHAW (Pickering).—*Lantern-slides for Bee-lectures.*—The British Bee-keepers' Association have slides on hire on application to the secretary, Mr. E. H. Young, 12, Hanover Square, London.

E. W. (Harleston).—*Flour-candy.*—Candy as sample is only suitable for use in places where natural pollen is scarce, and should only be given for stimulating breeding when weather is warm during March or later on when bees can fly freely. Your sample seems overloaded with flour, and is too dry for bees' use.

BEAVER (Beverley).—*Dividing Hives for Queen-rearing.*—1. We advise you to adopt no modification of Mr. Sladen's method of queen-rearing, as dealt with in the new edition of "Guide Book" (Fig. 91, page 129). 2. With regard to making artificial swarms, you cannot go wrong by carefully adhering to any of the several methods detailed in the chapter on that subject (page 93). No fixed date can be given for swarming hives artificially, but you will note in third paragraph of chap. xvii. the start must not be made till "the stock-hive is crowded with bees and contains drones," so that the date varies with the district in which the hives are located. In Yorks it would be two or three weeks later maybe than in the South. 3. We advise all surplus-chambers to be placed above (not under) the brood-nest. The only deviation from this rule should be in cases like your own—*i.e.*, with hives on the "W. B. C." principle, where boxes of shallow-frames may be set below the brood-chamber temporarily to prevent swarming. Then, when the bees have started comb-building in the shallow-frames the box may be removed and set above the brood-nest as a surplus-chamber.

Suspected Combs.

BEE-MAN (Speyside, N.B.).—The comb marked No. 1 is a typical sample of *Bacillus alvei*, all the known characteristics of colour and ropiness being present in unmistakable form. No. 2 is about as bad, but the disease is of older standing.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

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3 DOZEN PURE HEATHER HONEY, 16 oz. Screw Bottles, 10s. 6d.—HORN, Bedale, Yorks. e 64

4 STOCKS STANDARD FRAME HIVES, £3 10s., or 18s. each, packed.—WEST, 83, Stoke-road, Gosport.

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BOKHARA CLOVER, "Chapman Honey Plant," Limnanthes, Seeds, 6d. packet, 1s. 4d. three, carriage paid.—BAYLEY, Fair-view Apiary, Sellindge, Hythe, Kent. e 55

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CHAPMAN HONEY PLANTS.—Extra Strong Plants, to blossom 1908, 12 3s., 6 1s. 9d., package free; Seed, 6d. and 1s.—JOHN P. PHILLIPS, Spetchley, Worcester. c 34

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MARCH 12, 1908.]

The British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR.

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Editorial, Notices, &c.

BEE-KEEPING IN SOUTH AFRICA.

AN ASSOCIATION FOR THE TRANSVAAL.

We learn that a meeting of bee-keepers was held at Johannesburg recently for the purpose of forming an association there under the name or title of the Transvaal Bee-keepers' Association. The Earl and Countess of Selborne are to be asked to become patron and patroness respectively as soon as fifty members have been enrolled, and General Botha will be invited to become president. Mr. W. H. Blower has been appointed hon. secretary pro tem., and it is expected that the proposal will take tangible shape in a very short time.

We need hardly say how heartily the movement meets with our approval, and as we happily have a good number of constant readers in South Africa, our earnest hope is that they will take an active share in pressing it forward.

British methods of bee-keeping are well to the fore there already, as we know from the fact of having personally taken an active part in supplying a thoroughly up-to-date bee-tent, with a full equipment, for lecturing purposes and demonstrations with live bees. This tent has already done service at a leading agricultural exhibition, thus affording the opportunity for showing British hives manipulated by an English expert. It now remains for manufacturers who have agents in South Africa to use every honourable effort in promoting the adoption of British methods and the use of hives made for working in accordance therewith. At present the most absurd comparisons have been made by interested persons between British and American hives. According to one statement an English hive costs in the Transvaal between £4 and £5, while an American hive may be had for 12s. 6d.! As well might we compare a mansion built to let at £200 a year with a workman's cottage at 5s. per week! As a matter of fact, hives of the 12s. 6d. type mentioned above are catalogued by makers in this country at about 8s. 6d. each, and could, we think, be sold in South Africa at a profit for less than 12s. 6d. if sent there "in the flat" by British makers.

As already said, we commend this point to the notice of manufacturers who have agents in South Africa, seeing that British methods of bee-keeping will be practically shut out if such absurd notions as we have drawn attention to are allowed to obtain with regard to the cost of hives. Meantime, we wish a full measure of success to the effort to promote bee-keeping in the Transvaal by the establishment of an association for South Africa, and would welcome a proposal that it be affiliated to the parent body in this country, if it is considered advisable to do so.

NORTHAMPTONSHIRE B.K.A.

ANNUAL MEETING.

The annual meeting of the Northamptonshire Bee-keepers' Association was held on Saturday, February 29, in All Saints' Schoolrooms, Northampton. Mr. T. A. Roberts presided over a good attendance, which included Messrs. F. Beale, H. Collins, J. Bubb, — Norman, A. Arlidge, O. Orland, W. Manning, W. Osborn, R. Askew, and J. Kennedy. Apologies for absence were received from the Rev. J. P. Frend and Messrs. C. W. Phipps, A. L. Y. Morley, C. J. Burnett, J. Adams, and several others.

The secretary read the twenty-fifth annual report, according to which the accounts showed a cash balance at the close of the year of £9 15s. The report and statement of accounts were duly passed. The season of 1907, owing to the wet and cold weather, would long be remembered by the majority of bee-keepers as one of the worst ever experienced by them, very little or no honey being secured, and in some cases the early swarms died of starvation. Notwithstanding the adverse season, the annual show was again held, by permission of the Corporation, in the Museum Buildings, Abington Park. A fair display was made by about forty exhibitors. Mr. W. Herrod judged the exhibits, and gave demonstrations in the bee-tent. Demonstrations were also arranged on behalf of the Northants C.C. at Weedon, Brackley, and Blakesley. On September 5 an examination for the B.B.K.A. third-class expert's certificate took place in the gardens of the hon. secretary at Kingsthorpe. Mr. W. Herrod, F.E.S., was appointed examiner, and six candidates presented themselves, all of whom passed, viz.: Messrs. Beale, Billson, Burnett, Morris, Askew, and Kennedy. Mr. Roberts (East Haddon) was examined at Luton by Mr. W. Broughton Carr, and successfully passed. Mr. Roberts afterwards entered for the second-class examination, and was again successful.

A vote of thanks was passed to the retiring President (Mr. C. W. Bartholomew), and the officials for the ensuing year were then elected as follows:—President, Mr. Chas. W. Phipps; Vice-Presidents, Earl Spencer, K.G., the Lady Knightley, Lord Effingham, Mr. H. Manfield, J.P., M.P., and Mr. James Manfield, J.P.; Hon. Secretary, Mr. R. Hefford; Hon. Steward, Mr. R. Brawn; Hon. Treasurer, Mr. G. E. Atkins; Dis-

trict Secretaries and Committee, Mr. J. R. Truss, Mr. W. Manning, Mr. C. Cox, Mr. F. J. Old, Mr. C. J. Burnett, Mr. H. Collins, Mr. G. Page, Mr. J. Bubb, Mr. W. Osborn, Mr. O. Orland, Mr. G. Odell, Mr. F. Beale, and Mr. Andrews.

It was decided to approach the Corporation with a view to holding the annual show in Abington Park on August 6.

A vote of thanks to the chairman concluded the business portion of the meeting.—R. HEFFORD, Hon. Sec., Kingsthorpe.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[7030.] The opening of the bee-year is close upon us again, but from what I hear a number of stocks are lost for want of attention, so that with another two months in which bees in most places will require feeding the outlook is none too bright. We are constantly urging the need for seeing to the stores, but the warning only goes to B.B.J. readers, and beyond our circle there are many who never read a bee-paper, and in the hands of these bee-keepers the greater number of stocks will perish from want. There are also readers whose habit is to procrastinate in tackling the most ordinary work, till some sunny day they will find several good colonies have perished quite recently for want of a little attention and a cake of candy.

Packing Honey for Transit to Shows.—This is one of the easiest jobs imaginable, if set about in the right way. It simply needs to get a butter-box from your grocer (cost 2d.), cut twelve pieces of corrugated paper into sizes to fit round your jars; tie each loosely with string, or put a bit of gummed paper at the joint to hold the envelopes in shape; place a wad of hay, or two thicknesses of corrugated paper will answer the purpose; stand your dozen 1-lb. jars in the box in the envelopes, and around the outside of the jars place a little load of hay wrapped in paper; this keeps them from rocking, and a wad tacked inside the lid completes the package (cost, about 4d.); fasten the lid with four screws, and paste on it a good bold "Don't Jar" honey-label; then cord to make a handle for the rail porters who handle the parcel. If the exhibit is sold it goes to buyer in a package less than 6d. in value. In all my twenty-five years' experience of showing I have never bought a carpenter-made case, and I have had very few breakages of show stuff during the whole time. My aim has ever been to make bee-keeping pay, and I have succeeded in so doing.

In these days of "small holdings" I have no doubt that bee-keeping will make a great advance as a help to pay the rent of the "holding." The latter, with security of tenure, will come as a "settler" of the occupier of such. During the past twenty or thirty years the agricultural labourer has been in the habit of changing his employer yearly, if not oftener, with the result that he has ceased to be a bee-keeper. The new condition will, I hope, find him taking to bees for his own profit and the well-being of the community at large, for a bee-keeper confers a general benefit on farmers, fruit-growers, and market-gardeners by increasing their respective crops through fertilisation of fruit and seed. I hope our county associations will not neglect the small-holders, but gather them into fellowship and membership and induce them to keep bees.

I notice the tabulated honey imports for the year 1907. Will our Editors kindly give us the quantities of, say, 1906 and 1905, so that bee-keepers may know if the quantity is a growing one?

I am very glad to see the first novelty for 1908 in friend Meadows's new screw-power wax-extractor. It is an appliance which has been long wanted. Solar extractors are useful when the sun is shining, but an extractor is often wanted when sunny days are past, and the combs may be spoiled before another June comes round, and even then the sun may not shine—*vide* the record of June, 1907.

I heartily endorse Mr. Crawshaw's appeal to "H. S." for more light on the disease which has stricken the latter's apiary.—W. WOODLEY, Beedon, Newbury.

THE WIGHT MAN'S WAIL.

NOTES FROM THE SMITTEN ISLAND.

[7031.] In response to the wish expressed by Mr. Atkins (7018, page 85) and by many others to see something in the B.B.J. from the Isle of Wight, I now send a few lines. In the first place, I should like to say there never would have been "this forbidding silence" had it not been for the attitude of the B.B.J. in the early days of our trouble, and for nothing worse than writing a brief letter to an island paper calling local attention to the outbreak of disease and asking bee-keepers not to send any matter across the water that might infect mainland bees—a letter any single statement of which, after nearly two years of practical experiments and the best scientific investigation of the disease that

the country could give, I challenge anyone to disprove. For that, an act of kindness to our mainland brethren, I was held up in two editorials of the B.B.J. (pages 281, 321, 1906) before the eyes of the bee-keeping world as but little better than an imbecile. That seemed bad enough, but even worse followed in that the JOURNAL refused to publish my reply, which would have completely vindicated my actions. Instead of printing it, a short note was inserted still further holding me up to ridicule. The natural result of this treatment was that for a long time we had to battle in the dark, vainly looking for outside help or sympathy. So far as the B.B.J. is concerned I am still writhing under the editorial lash, as nothing then said has yet been recalled. As might be expected, this has had the effect of alienating to a great extent the island bee-keepers, and, in my opinion, is the cause of "the forbidding silence."

On the other hand, we are exceedingly grateful for the kindness of those who are desirous of helping, and to such I would say that, although not thinking the present the right time to anything like re-stock the island, yet much good might be accomplished by wisely distributing fifty or sixty stocks in various parts of the island as Mr. Silver proposes. What we need most of all is light on the disease, and to get that there must be bees to experiment with; even if, as Colonel Walker suggests, they do come to die, it should not be all loss. The knowledge gained ought to fully repay the outlay. Especially is this the case now that the disease has apparently reached Herts. With regard to the outbreak there, I have already asked the Board of Agriculture to investigate it as fully as possible. I see that Colonel Walker also suggests that an expert be sent over from the mainland. We would gladly welcome such, especially if he could teach us anything about the disease or throw any light on it. Why not send Mr. T. Stapleton (page 355, 1907) to try his "fresh-air cure"? I might mention that we have experts on this side of the Solent, and I know of one in particular who has bicycled thousands of miles, riding about the island (in most cases without having even his expenses paid) for the purpose of lending a helping hand, gleaning information, or conducting experiments. And there are some sensible bee-keepers, too, even though a few, perhaps, are so discouraged and disheartened that they have not troubled yet to remove the combs and hives after the bees have died. A letter in the local Press asking them to do so would no doubt have the desired effect.

None of the Press reports that I have read have exaggerated the terrible effects of the disease; in fact, it would be impossible to do so. Hundreds of bee-keepers have lost all. Only to-day I received a letter from a gentleman at Cowes saying that his twelve stocks, beautifully strong in the autumn, are now all dead. I have lost about eighty stocks in all, a great number of them sacrificed in the way of experiments. I have introduced new blood by purchasing stocks, swarms, and driven bees from the mainland, some from so far north as Newcastle, and in the way of medicine have tried almost every conceivable thing, and as yet have only known one lot ever recover after being once smitten. Strangely enough, that was the stock from which the specimens were taken for the figures issued with the Board of Agriculture report.

Enough has been said for this week, but if the way is clear I hope to follow it up with a few notes on the measures that have been taken in trying to combat the plague.—H. M. COOPER, Thorley, Isle of Wight, March 6.

[We print the above—as requested—*verb et lit*, and have thus afforded our correspondent a full opportunity for commenting on our action in connection with the subject. With regard to ourselves, we simply add a line to say that everything we have done or said throughout the controversy is recorded in the pages of this journal, and we are perfectly content to be judged thereby. Those who are sufficiently interested may, therefore, obtain back numbers containing editorial references from the office for a few pence. Having said this much, we trust that in any future "few notes" Mr. Cooper promises to favour us with he will kindly refrain from reiterating such utterly unfounded charges against us as his being "little better than an imbecile." A considerable amount of space in this issue is devoted to Isle of Wight affairs, but the pressing matter at present is the furthering of the effort to help in re-starting the bee-industry.—EDS.]

THE ISLE OF WIGHT BEE-FUND.

SOME SUGGESTIVE FACTS ON THE SUBJECT.

[7032.] I was in the Isle of Wight early in October last, and spoke to a cottage bee-keeper whom I happened to see at his garden-gate on the subject of the disease amongst the bees. His answer to a question I put to him was that his were "nearly all gone, and that it was no use messing about with them any longer." I said, "Have you taken any preventive or eradicative measures?" and he replied, "No; it's of no use doing anything. Others have tried and failed, and the best thing to do is to let it take its course." I asked him to allow me to look into his hives, two of which were home-made, very old and dirty box-hives, and three skeps. In the former all the bees were dead,

about a quart lying in the bottom of each. There were boxes of shallow-frames on each, containing a little unsealed honey; the brood-combs were black and old, containing some dead brood and a little sealed honey, but otherwise appeared healthy; the hive-entrances were open to the mercy of robbers, to which I drew the attention of the owner; and in all three skeps there were some live bees in a morbid, listless state, though the day was bright and warm. I have no doubt there are plenty of other cases like this where bee-keepers will not take the trouble to rid themselves of the disease, and instead of members of the different bee-keepers' associations being asked to subscribe towards re-stocking the island, to meet with the same fate as the others, or perhaps, as Colonel Walker says, "perpetuating and probably spreading the disease," my humble opinion is that all bees on the island should be exterminated and all appliances burned, and no bees allowed to be taken on it for at least one bee-season. I remember the lines of "D. M. M., Banff," some time back:—

They rubbed through yesterday
In this hereditary way;
And they will rub through, if they can,
To-morrow on the self-same plan.

I note that the Board of Agriculture have been investigating the matter, but why do they not take the same interest in exterminating bee-diseases by isolation, destruction, issuing orders, and other means, to say nothing of, or rather not forgetting, compensating for losses of stocks and utensils destroyed by their inspectors or orders, as they do in those which periodically affect cattle and swine? Small bee-keepers pay proportionately, indirectly, if not directly, towards the country's taxes, as do the well-to-do farmers on a larger scale, and are entitled to the same amount of consideration and protection.

I am not now a bee-keeper, and do not belong to any bee-keepers' association, but I have obtained the last annual report of the Hants and Isle of Wight Bee-keepers' Association, by which it appears that there were three subscribing members, including the district honorary secretary, in the Isle of Wight to the county association, with total annual subscriptions amounting to 10s. I just mention this to show that they are not a very enthusiastic or energetic lot as regards bee-keeping over there, and lack of energy on the part of individuals is no encouragement for associative effort on their behalf in time of need. "God helps those who help themselves." Name sent for reference.—W. R. B., Havant, Hants, March 9.

ISLE OF WIGHT BEE-TROUBLE.

[7033.] Allow me to thank your correspondent Mr. Silver for his useful letter last week (7023, page 93). I am in full agreement with the Editors and Colonel Walker in gladly accepting his services in the matter; indeed, I think we should be grateful to him for accepting so onerous a position.

Both Mr. Silver and the unnamed correspondent mentioned by our Editors on page 94 bring serious charges of culpability against some members of the craft in the I.O.W. To allow hives containing bees which have perished from the disease to stand about the apiary during or after an epidemic of this nature shows crass stupidity or culpable negligence, and this state of affairs must be ended before any generosity can be expected. Nor does Mr. Silver shed much light upon last season's work. One is led to ask:—1. How did the bees fare during that calamitous summer? 2. Was the progress of disease more rapid during that cold, sunless season than formerly, and did the epidemic rage as badly? 3. Has any apiary escaped entirely?

Colonel Walker, an experienced apiculturist, has so ably stated the position of bee-keepers on the mainland that there is little more to be said. "Healthy stocks to healthy apiaries" must indeed be our watchword, and although I shall not go back on my promise to help, I think a year's postponement would be better for the island.

The conditions of my giving a swarm will be that the bees be given to an apiarist with a clean bill of health, hived in a new skep, and placed where no other bees have stood, fed on medicated syrup (absence of honey-flow necessitating), and killed off summarily should the scourge attack them. If Mr. Silver can find me an apiarist to accept these terms, he may put my name down for a swarm in June. I may say my bees are pure-bred natives of excellent working strain, and should they prove disease-resisting, would be useful for building-up purposes in the following season.—T. E. Atkins, Atherstone, March 9.

THE ISLE OF WIGHT BEE-DISEASE.

DANGER OF SPREADING.

[7034.] I think your esteemed correspondent Colonel H. J. O. Walker speaks words of wisdom when he says (page 94) of this disease: "In the name of common sense let it die out where it may." Certainly, and then burn hives, &c.

I should say that the very best way to introduce the disease (if as infectious as it appears to be) to the mainland would be to send a number of swarms to the island and then have the boxes, skeps, &c., "returned to the senders"!—*i.e.*, after being "mauled about" in the vicinity of diseased hives and bees! I had foul

brood sent to me in that fashion over twenty-five years ago. My earnest advice after thirty years' experience as a bee-keeper is: "Be careful! Don't tinker!" I send name for reference.—CAMBS BEE-KEEPER.

BEE-KEEPING IN THE TRANSVAAL

FOR PLEASURE AND PROFIT.

[7035.] I send you a short account of how I began bee-keeping in the Transvaal, also a photo of my apiary, which may be of some interest to your readers. I am a subscriber to your interesting journal, and find the contents very helpful, even though they, in general, relate only to bee-keepers in the British Isles.

If you can find space in your journal for my small contribution I shall be glad, as bee-keeping in the Transvaal has during the past few months been brought a good deal before the notice of the public, inasmuch as the bee-keepers of that colony have now formed an association, which, though still in its infancy, is steadily growing.

My experience with bees extends over three years only. When I left England four years ago, with the intention of settling in the Transvaal for a few years, my great idea and wish was to keep bees. I had no knowledge whatever with regard to the management of these small insects, so far as making the pastime interesting and profitable went; but sent to Mr. E. H. Taylor for the goods I thought necessary to commence with, and also for one stock of bees. This stock arrived in the Transvaal in good condition, but owing to my want of knowledge, and also to bad advice given to me, the bees died three days after arrival. I remained "beeless" until October of the following year (1905), when I purchased a stock from Mr. F. Sworder, Mr. Taylor's agent in Johannesburg. These bees have proved a great success. In the first season (which extends from October to March in my district) they gave a fairly good return, and I was encouraged to continue.

Next season was still more encouraging, for although the three swarms that came off all escaped and were lost, I had a good yield of lovely veldt honey. At the end of the season I bought some bees in two old boxes, and successfully transferred them into a modern frame-hive. After accomplishing this "feat" I felt quite confident when handling bees. A few days later two swarms were given to me, so that I ended the season with four colonies. All these I fed continuously through the winter, and they came through safely and all strong in bees.

Spring came, and with it swarms in abundance; two of the hives sent off four or five swarms each, which kept me busy, and I had the satisfaction of losing only one, that one being the first swarm of the season, which flew off and was lost.

Almost every day for a fortnight I hived a swarm, sometimes uniting two lots so as to build up more quickly. During the previous winter months I had made four new hives, thinking I would do well if I had one swarm from each hive: but when the swarms came in such abundance I had to work hard and get as many

MISS M. W. JOHNSTONE'S APIARY, ROODEKOP STATION, TRANSVAAL.

more hives ready as possible. I make all my own hives from the first I got as patterns to work from. One or two bought are to be seen in the photo, which had to be obtained hurriedly when I ran short this season.

My original stock did not swarm at all this season, but devoted all its time and energy to honey-storing, and this same honey has now taken a few first prizes. I secured 110 lb. of surplus from this hive (the large one at the back right-hand corner). Some of my swarms have also given a good return. I use the ordinary 1-lb. sections on almost all my hives, finding the bees do better work in them than in shallow-frames.

You will notice that nearly all my hives are covered with sacks, this being a necessary precaution owing to the intense heat of the sun at this season. I find these rough coverings a great help where we have practically no "tree shade" as yet, our orchard being only three years old.

Once or twice I have been able to lend a helping hand to others commencing bee-keeping, and have also been asked to remove objectionable swarms, which they say "you can have them for taking away."

I find bee-keeping both interesting and profitable, and greatly wish to see it taken up as an industry in the Transvaal. For ladies it is a specially nice pastime, and one which gives a good return for a small outlay.—MARY W. JOHNSTONE, Roodekop Station, Transvaal, S.A., February 17.

[The above interesting communication, which reached us after our leader on front page was in type, is not only opportune, but useful as tending to emphasise the remarks we have thought it well to make on page 101. A few more bee-keepers of Miss Johnstone's practical type would do much to make British methods of bee-keeping better understood than they appear to be at present, and we heartily congratulate the lady on her success.—EDS.]

ROSS-SHIRE NOTES.

[7036.] *Miniature Sections.*—Last season gave no chance to decide whether these sections are of any commercial value or not. For trial in the coming summer I understand that Mr. Robertson has got up a ¼-lb. size, eight of which just fill an ordinary shallow-frame. I think this idea rather promising—decidedly more so than the former one. To give best results the little boxes should preferably be filled with built-out comb instead of foundation.

Drawn-out Combs for Sections.—For some time back I have been experimenting on the lines of getting super-foundation partly drawn-out previous to its insertion in sections. The 5½-in. shallow-frame is used, but minus metal ends, so that eighteen frames can be crowded into the ordinary super. The bottom-bars are scalloped out ⅛ in. all their length and on either side, giving a scant bee-way to interior, while the close spacing prevents heavy clustering of bees on the foundation. The ordinary lengths of extra thin foundation are used simply fixed in the saw-cut, and a breakdown is rare. These are meant as preliminary supers, given (with excluder under) just as the honey-flow begins, and when partly worked out are replaced by section-racks. Each of these shallow-supers supplies sufficient new white combs to fill over fifty sections—valuable assets for the heather. With care in cutting and fitting this procedure results in perfect section-honey, free from either pop-holes or brace-combs. In 1906 I sent just such honey safely by parcel post to Central Canada.

Matters Scottish.—We Northerners, bee-men included, are generally credited with having a "guid conceit" of ourselves, and it is really unsafe for Mr. Herrod to rouse our ire (*vide* page 95). Those who tread or sit down on the thistle usually come off second best. Perhaps we are a benighted lot, but our sins, I feel sure, are mainly those of omission. Many of us have not been within twenty miles of a honey show, and, maybe, the majority of us have never seen a real live "expert," and yet, withal, is it merely one of life's little ironies that honey produced by careless and ignorant Scotchmen sells more readily and at a better price than the gilt-edged Southern product? This latter point is, after all, the main thing, and with the purchasing public on our side we do not need to care a straw hat for detractory Lutonian effusions.

By the way, it is not generally known that there will be an apicultural supplement to this week's Dundee *People's Journal*, along with photos of Northern bee-men, possibly including "D. M. M." Lest this information should be thought to savour of egotism on my part, I hasten to add that the portraits are to be mainly those of veteran bee-men, and not of youthful members of the craft, such as—J. M. ELLIS, Ussie Valley, March 9.

NOTES FROM NORTH HERTS.

DISEASES OF BEES.

[7037.] According to your correspondent Mr. G. W. Avery (7014, page 82), "European foul brood" is a new American name for "black brood." This disease is usually stated to be more amenable to treatment than foul brood, and also to disappear without treatment at times. Does Mr. Avery mean that all self-cures of supposed foul brood are

really cases of black brood? And why did Mr. Crawshaw wish to distinguish this disease with still another name? As we are in England, I somewhat naturally supposed that the mild type of foul brood was the type described in the new edition of the "Guide Book." In this type the mortality is chiefly confined to the unsealed larvæ. Where there is partial immunity to zymotic disease the young are frequently less resistant than adults, and if this applies to bees we should expect the characteristic to be noticed in cases of both foul and black brood when more susceptible stocks had been practically "wiped out."

When disease ravages an apiary and leaves one or two stocks unscathed, it seems reasonable to suppose that these stocks are possessed of some innate power of resisting the disease not possessed by the other colonies. Possibly this was the case with the ten historic stocks of Dr. Dzierzon, the sole survivors of an epidemic of foul brood by which he lost over five hundred colonies. At any rate, with regard to their descendants, Dr. Dzierzon found that he could cure an attack of foul brood by removing the queen. He noted, however, that there was often a fresh outbreak the following season in stocks so treated, and says: "The bees do not usually remove all putrid matter from the cells, but let some portions remain in the corners after it has become dry, merely covering it with a film of wax or propolis, through which, subsequently, when circumstances favour its action, the virus may exert a malignant influence and cause a revival of the disease. Hence when I do not break up such colonies altogether in autumn . . . I invariably regard them with suspicion, and keep them under surveillance at least a year longer."

I think this shows clearly that the removal of the dried scale is not absolutely necessary for the disappearance of the disease, but that such a measure is desirable to prevent its recurrence. It also shows that to bring about an outbreak a susceptible condition of the colony is necessary, as well as the presence of the spore.

All survivors of a herd of cattle infected with anthrax (to which Mr. Avery refers) would be immune for life, and the germs, although present, would be powerless to affect them. But anthrax is very dangerous to man and to uninfected herds, and rigorous methods are therefore a necessity. Disinfection prevents further outbreaks, but does not cure. As with foul brood, the great danger is the spreading of the disease.

The "Wrestlers."—Referring to this matter as dealt with by Mr. Crawshaw (page 90), I certainly expect the Doctor to gain the best of the falls. It seems to me that an Italian queen which has been tested for purity of mating must be a "tested queen." The actual meaning of "tested" is governed by the test imposed, and conveys no meaning beyond that. It may be a matter for regret that queens are not of a selected strain or of a tested strain, but with regard to any individual queen the only reliable test of general usefulness is to allow her to head a stock for a year or two. A very full certificate could then be issued, but the queen would only be useful, along with worker-hornets, to brother bee-keepers for scientific purposes.

Friend "D. M. M." has good company, however, in his objections. Mr. Alley, of queen-rearing fame, disagreed with the mating definition in 1883, and said: "Tested queens are those bred from the best stock and kept in the apiary until the value of their progeny, regarding honey-gathering and purity, has been thoroughly determined."

This honey-gathering test could only be made when the queen was the mother of a powerful colony. After the breeder had used her for a season there would be considerably less in her for the purchaser.—G. W. Bullamore, Albury, Herts., March 9.

BEES IN WORCESTERSHIRE.

[7038.] I am pleased to say my twelve stocks of bees have come safely through winter so far; but, as our friend "D. M. M." says, we are not out of the wood yet, so I must not boast. I first noticed bees from three of the hives carrying in natural pollen on February 6. I also saw many bees busily carrying water ten days later, so I think they are starting brood-rearing. Anyway, these outward signs of prosperity are encouraging, and I add my good wishes to brother bee-keepers, and hope for a bumper yield of surplus in the coming season to all readers, wishing the Editors and our ever-welcome little B.B.J. every success.—E. Ballard, Evesham.

BALLOAN BEE-NOTES.

RETROSPECTIVE.

[7039.] *Winter Cover for Brood-chambers.*—In the B.B.J. of November 28, 1907 (page 476), I described what I considered to be a cover for brood-chambers combining the necessary essentials, viz., facilities for observation, feeding, ventilation, and a winter-passage over the frames. Some notice has been taken of my suggestion by your readers, and I have also had some private inquiries with regard to same. Mr. Crawshaw, in "Cappings" (December 19), made some comments on it, and

said he meant to give my idea a trial. I hope that he and others who have done this will let us know the result of the experiment. For myself, I see no need at present for making any change on what has already been described. A glass cover with a frame all round is a case of more glass and less wood. I still prefer more wood and less glass, and the glass in small pieces for reasons already given.

Mr. Crawshaw suggests putting two pieces of carpet between the wooden frame and the quilt to remedy the inequalities on the tops of the frames. Very good so far; but Mr. C. must remember that by doing so he makes the recess correspondingly higher and gives room for brace-combs.

Securing Uniform Combs.—When I introduced this subject (6956, page 7) I thought some discussion would follow, and I was right. I am pleased to see that it has now been referred to by recognised leaders in matters biological. That there is diversity of opinion goes without saying, but it will be admitted that something is required in order to secure both straight and uniform combs under certain conditions.

As I am clearing up arrears, allow me to say a few words to your readers who twitted me about my "new fangles" and about forcing them on others. In some people's eyes it appears to be almost criminal to suggest alterations in or departure from methods already in use. But during my over forty years' bee-keeping experiences I have seen many "new fangles" introduced, and, comparing the bee-appliances of my early days with those in use to-day, they would readily admit that the improvements effected have conferred a great boon on the bee-keeping industry. Bee-keeping has not reached that stage when no further improvement can be made.—A. Reid, Balloan, Muir-of-Ord, N.B.

COUNTY BEE-ASSOCIATION FOR SUSSEX.

[7040.] From your reply to a correspondent on the subject of a county association of bee-keepers for Sussex in your issue of February 20, I note that the difficulty lies in finding an hon. secretary. As I have no occupation, am a bee-keeper—though not an expert—and qualified to undertake the duties of a secretary, I shall be glad if you will put me in communication with your correspondent "K. C.," as I also would like to see an association set on foot in this county, and for want of a better man for the post will undertake the duty of hon. secretary myself.—William Edwards, Hassocks, February 21.

WEATHER REPORT.

Westbourne, Sussex,
February, 1908.

Rainfall, 1·31 in.	Minimum on grass, 20° on 2nd and 3rd.
Heaviest fall, ·59 in. on 16th.	Frosty nights, 13.
Rain fell on 16 days.	Mean maximum, 47·1.
Below average, ·68 in.	Mean minimum, 34·8.
Sunshine, 83·3 hours.	Mean temperature, 40·9.
Brightest day, 24th, 7·8 hours.	Above average, 2·7.
Sunless days, 5.	Maximum barometer, 30·770 on 7th.
Below average, 6·2 hrs	Minimum barometer, 29·201 on 29th.
Maximum temperature, 53° on 18th and 19th.	
Minimum temperature, 28° on 3rd and 11th.	

L. B. Birkett.

FEBRUARY RAINFALL.

Total fall, 1.55 in.

Heaviest fall in 24 hours, .49 in. on 16th.

Rain fell on 16 days.

W. Head, Brilley, Herefordshire.

CAPPINGS OF COMB.

By L. S. Crawshaw, Ilkley, Yorks.

Functions of Air-vessels (page 76).—What a very good article by Mr. S. Jordan on this subject! As a reader of the B.B.J. I feel grateful to those experts who thus give us of their time and thought in other than mere text-book phrases. The assimilation of a subject is rendered much easier to those of us who have not definitely studied it when it is treated in this interesting fashion, even though there may be a few difficult words! By the way, is there an up-to-date dictionary of such terms which is not beyond the modest means of most bee-keepers? May I recommend the possession of such a work as giving an added pleasure to the perusal of a scientific article?

Frame-spacing (page 77).—The nail as a spacer has been in use abroad for a long time. Spacing with these is usually $1\frac{3}{8}$-in. pitch. The idea of turning them aside for narrow spacing is not bad, but why space narrower than this dimension? It would be a long job if each nail were to be bent at the time of re-spacing. Would it not be better to crank them slightly when fixing, and then simply to rotate them? If nails be used, the head helps to prevent the sinking of the spacer into the adjoining frame.

Healthy Heather (page 78).—Since this note I have visited the moor, where seven stocks were left, for experiment, over the winter for removal this spring. These stocks had no stores when they arrived at the moor, and were only kept from

starving by soft candy during the delay in the opening of the heather, so that the stores they gathered for winter use were entirely from the ling. Of these seven, three are dead, their hives showing considerable signs of dysentery. The balance of their honey is strongly granulating, and the combs are cut down in places in the effort to obtain it. This appears to bear out my note; but there may of course be other factors.

Foul-brood Scales (page 82).—The term "scale" has always seemed to me to be a misnomer. The residuum of virulent foul brood is not even scale-like. A dead, but healthy, larva does indeed look like a scale, and may be removed as such. Where such scales exist it is probable that the larval skin remains unbroken. The word "sediment" would appear to describe the true condition more accurately. I do not think that the bees cannot, under any circumstances, remove this sediment; but they cannot (or do not) make an aseptically clean job of it.

The "Gerster" Wax-extractor (page 85).—I am grateful to Mr. Bullamore for pulling me up over this matter of wax-rendering. I wrote in haste, and am ready to repent at leisure without waxing hot! I have, however, broken the over-hasty pen! My note was written on the basis of some early experiments with various methods. I remember, however, that the wax remained in the extractor for the whole of this steam process. Needless to say, it was not a "Gerster," to which type I tender my apologies. I still think, however, that the ideal extractor will yet prove to be one in which the combs are melted under water at less than 212 deg.

Sceptical Derision (page 87).—Not derision, "D. M. M.," dear. Sceptical I certainly may be where I do not see clearly; but I do not mean to deride, and certainly not on page 78, so I must add a neutralising derider to that effect! But either I have missed your point or you have missed mine. I do believe that some honeys contain pollen, and that this may cause dysentery. What I do not see is what you mean by suggesting that this dysenteric honey could be gathered after heather-honey, and therefore used before it. Your present words do not certainly bear this out, but your previous theory appears to demand it. Please explain. But I think you are still wrong, even on page 87. Pollen is carried into the hives during heather-time, and this is of a greyish colour. Is not this from the ling?

"Robbing" (page 91).—It seems remarkable that in an article like this there should be no mention of one of the most effective cures. A simple and easily-obtained remedy for the mischance is the application of an armful of weeds, or wet grass, or hay, or similar material to the entrance of the robbed stock. The inmates can find their way home, and the defenders can effectually tackle intruders in the intricacies of the breastwork.

"Grose's Device" (page 97).—Are combs built over this wiring never deformed? Often when a wire is loose against the face of the foundation the contiguous cells are misbuilt. Then, too, the wire is not actually built into the septum, and the line of cells may therefore be out of action for brood-rearing. Does it not add to the difficulty of fixing to be obliged to fix foundation and wires at the one operation?

Queries and Replies.

[3675.] *Speed of Bees in Flight.*—I have been asked as an old bee-keeper to give an answer to the question: "At what rate do bees travel?" The subject was being discussed owing to one gentleman expressing the opinion that a bee could travel at the rate of 400 miles an hour! This would mean that a bee so inclined could visit Edinburgh in an hour. I do not see the subject mentioned in the "Guide Book," but one of my books gives it as "almost the speed of lightning." Perhaps you or some of your correspondents who know more about it than I do could give a reliable answer.—F. V. Hadlow, Sussex, February 29.

Reply.—We quote the following from "The Honey-Bee," by T. W. Cowan (page 46): "The rate of flight is difficult to determine, but we have ourselves driven at the rate of twelve miles an hour and seen bees keep up with this speed for some distance, and even exceed it. The speed is, however, in a great measure regulated by the load the bee has to carry, and in returning laden to the hive bees fly much more slowly than when they leave it in search of food."

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

Windsor (Berks.).—*Insect Nomenclature: The Drone-fly.*—The insect forwarded is the drone-fly (*Eristalis tenax*), and though not belonging to the same order as bees (*Hymenoptera*), it is frequently taken for a drone; hence its name.

Some interesting particulars regarding the drone-fly will be found in our issue of February 27 (page 84).

LOVER OF BEES (Hamilton).—*Differing Opinions on Bee-management.*—Our own opinions on the different methods of management are plainly set forth in the B.B.J. and in the "Guide Book" respectively. This being so, it is obviously unnecessary to ask us to say whether you should follow the teaching conveyed in the publications named above or those of someone else who advises different treatment. If uncertain on the matter, suppose you try both methods, and follow the one found to answer the purpose best. We are quite willing to stand or fall by such a test.

T. F. N. (Bexley Heath).—*Helping Beginners.*—We commend your desire to assist beginners by giving instructions for each week's work among the bees for the whole year. The unfortunate part of the proposal, however, is that, after a year's work had been gone through, it would be necessary to begin the same story over again as each recurring new year came round. Not only so, but as we have readers North and South, from John o' Groats to Land's End, the season's work between these points would vary by several weeks. We fear there is no safer guide regarding what is to be done at different seasons North and South than by following the general directions in the "Guide Book," which you already possess. As a bee-keeper of seven years' standing, managing eleven stocks, and "now engaged in making a dozen 'W. B. C.' hives preparatory to going in for queen-rearing," we congratulate you on the progress already made, and wish you continued success in carrying out the teaching received as stated from B.B.J. and "Guide Book." You can become a member of the B.B.K.A. by applying to the secretary, Mr. E. H. Young, 12, Hanover Square, for a form of membership, and (if agreeable to yourself) may put down our name as your proposer.

F. TOVEY (Bristol).—*Bees Found Dead in Skep.*—There is nothing in the appearance of bees sent to account for death. The fact of there being only a small number of bees left makes it probable that they died from inability to generate sufficient warmth to maintain life. With regard to your suggestion of possible queenlessness, we found the queen dead among the bees, and cannot wonder at your not seeing her, so diminutive in size was she.

W. A. D. (Tunbridge Wells).—*Size of Hives.*—We see no advantage in a hive holding so many as fifteen standard frames in the brood-chamber. In our opinion ten or eleven frames are sufficient for all purposes, if care is taken that the combs are not rendered useless for brood-rearing by being either pollen-clogged or occupied with sealed stores. It occasionally happens that an exceptionally prolific queen may need an abnormal amount of cell-room, but the largest harvests have been obtained from hives holding no more than eleven standard frames.

BUSY BEE (Coventry).—*Mildewed Pollen in Brood-combs.*—The "cells full of white stuff" which have caused you to suspect foul brood are probably merely occupied with pollen, which has become mildewed since you extracted them in August last. If a small piece of the comb is sent to us for inspection we can write with certainty on the point, but we have little doubt our surmise is correct. In any case you may be quite sure it is not dead brood as stated.

W. CHALLIS (Cambs).—*Making Sugar-syrup for Bee-food.*—1. If the recipe given is carefully followed, two or three minutes' boiling will be quite sufficient. 2. "Soluble phenyle" is different from the phenyl known to chemists. It may be obtained from Morris, Little, and Co., Doncaster, who are the manufacturers.

Honey Samples.

W. H. U. (Haydon Bridge, N.B.).—No. 1 is nice clover-honey, but not so good as No. 3, the latter being excellent. The sample (not all sealed over) of heather section is very good indeed, the capping being of the exquisite whiteness seldom seen except in the far north of Scotland. We do not wonder at your heather sections realising the high price named—viz., 2s. 3d. each.

CONSTANT READER (Cheshire).—Your sample is a very curious one so far as regards granulation, but the quality of the honey is very good. It is from heather, which always has an aroma quite different from other honeys. What puzzles us is the large, hard granules in sample; these have no heather flavour at all, and would appear to be nothing but granulated sugar.

Suspected Combs.

NOVICE (Leicestershire).—Comb affected with foul brood of old standing. Stores must on no account be used as bee-food. It will be quite good for household use.

X. Y. Z. (Loughboro').—1. There is nothing in dead bees to indicate cause of death. If sample of comb containing dead brood is sent we can advise you further. 2. The bees are ordinary natives.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

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BEES-WAX, guaranteed pure, 1 oz. tablets, 1s. 9d. lb., £8 17s. cwt.; in bulk, 1s. 6d. lb., £7 15s. cwt.; samples, 3d.—TURNER BROS., Sandpit Poultry Farm, Croydon. e 87

FOR SALE, six Hives, Standard Frames, with Bees, £5 14s.—WRIGHT, Pickering. e 74

HEATHER HONEY, 10d. lb., jars 1s.; sample, 5d.; f.o.r. — JOHN STREET, Dishforth, Thirsk. e 83

GRAY'S SHOW JAR, fine sample of British manufacture, fulfilling all requirements of the Show Bench, 3s. dozen, free on rail; sample, 6d., post free.—THE WHITE APIARY, Long Eaton. e 84

YOUNG MAN SEEKS EMPLOYMENT in large Apiary and Gardening, well up in all stages; live in.—NICHOLAS, Tyseley, Acocks Green, Birmingham. e 75

WANTED, 1,000 Bee-keepers to try my Cottage Hive, with Frames and Sections, painted, 9s. 6d.; genuine "W. B. C.," with Frames and Sections, 15s.; above Hives without Frames and Sections, 6s. 6d. and 13s.; Section Racks, 1s. 3d.; with Dividers (metal), 1s. 9d.—SOUTHERN BEE-HIVE WORKS, Hellingly, Sussex. e 85

BEES, also new Hives for sale, cheapest rate, satisfaction guaranteed; new Frames, with thick Top Bars, 1s. doz.; Section Racks, 1s. each. Wanted, good incubator.—SWAN, 43, Harwich-road, Colchester. e 82

WANTED, two 1907 healthy fertile Queens, cheap.—A. H. BARTLETT, Crowthorne, Berks. e 81

WANTED, "Modern Bee Farm," Simmins; also Cheshire's "Bee-keeping," vols. 1 and 2, cheap, and good condition.—"W.," c/o "Bee Journal." e 80

FOR SALE, six strong Stocks Bees, in Bar-Frame Hives, together or separate; also four pure-bred black Retriever pups, 7 weeks old, 20s. each.—L. WATSON, Grange-road, Crawley Down. e 79

3 NEW STANDARD FRAME HIVES, Double-walled, painted three coats, 9s. each. Approval; Deposit.—WARREN, JUN., Gt. Horwood, Winslow, Bucks. e 78

FOR SALE, CHEAP, owing to removal, strong Stock of Bees, in Frame-hive, 4 empty Wooden Hives, Straw Skep, "Guinea" Extractor, Smoker, several hundred new Sections and Frames, quantity Foundation, Feeders, &c. Accept best cash offer.—WRIGHT, Fruiterer, Myrtle-road, Leicester. e 77

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CHAPMAN HONEY PLANTS.—Extra Strong Plants, to blossom 1908, 12 3s., 6 1s. 9d., package free; Seed, 6d. and 1s.—JOHN P. PHILLIPS, Spetchley, Worcester. c 34

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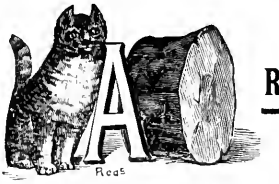
NEW  READY

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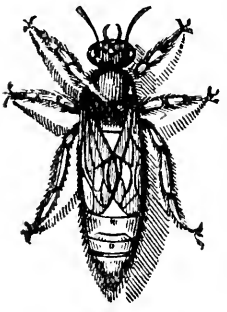

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Editorial, Notices, &c.

REVIEWS OF FOREIGN BEE-JOURNALS.

By "Nemo."

Loss of Italian Queens in Spring.—M. Maurice Bellot, who has imported and reared Italian queens since 1869, writes in *L'Abeille et les Fruits*, referring to the frequent complaints made that hives to which such queens have been introduced become queenless in spring, the conclusion arrived at by many being that Italian queens do not winter well in France. M. Bellot, in the course of his business, has purchased great numbers of queens in Italy, and has for many years been an extensive queen-breeder in France, so that he has long been in a position to thoroughly study the question, and is able to state why such queens are lost soon after their introduction in the autumn. His conclusions are: 1. The queen must be properly accepted before her liberation from the cage. A queen is not always accepted after forty-eight hours' caging, and although she may not be killed as soon as she is liberated, the bees may "ball" her for several days, damaging her wings, frequently severing one altogether, or amputating one or more legs. Even if a queen does not succumb to this treatment immediately, she becomes worthless, and the bees do not fail to replace her in spring when they have suitable brood for rearing another. 2. When the hives are placed too near to each other a certain number of bees make a mistake in returning after their first spring flight, and enter the wrong hive. If the bees are of the same race, generally all goes well, but it is otherwise if the common black bees enter a hive to which an Italian queen has been introduced before she has sufficient young bees of her own race to protect her. She suffers the same treatment as already mentioned, and if the combs contain young brood she is killed, to be replaced by another.

M. Bellot guarantees these two causes as well-established facts, and says colonies that are Italianised in September or October must be placed in such a way that no stranger bees can enter the hives. Here is a case where the claustral system could be used to great advantage.

Laws of Heredity.—As a great deal of ignorance exists as to the laws which govern successful breeding by selection, the *Leipziger Bienenzeitung* gives a summary of them. They are:—1. Every living being can only transmit to its progeny its own qualities. 2. In order that a particular quality may be transmitted to descendants it must have existed for several consecutive generations, and thus have become fixed or constant. 3. The transmission of this quality becomes assured if the parents, both male and female, not being blood relations, possess the same qualities to about an equal degree. 4. Climatic conditions of different regions have produced animals suited to those regions. In process of time unsuitable species have been eliminated, while others have attained a constancy of the qualities indispensable for their existence in this region. It may be said that every country possesses animals most suited to its peculiar conditions.

Queen-rearing.—For some years Swiss bee-keepers have devoted their attention to the improvement of their native race of bees. M. U. Kramer, the president of the Swiss Bee-keepers' Society, has been the leading spirit of the movement, and considerable success has been reported. As great experience is necessary to rear good queens intelligently, we give the conditions required for success, especially late in the season, according to M. Kramer in *Schweitzerische Bienenzeitung*:—

1. The colony must be disposed to raise queen-cells, either by an abundant flow of nectar or by liberal feeding. Heat conduces to this disposition, but is inoperative without the above-named conditions.

2. The hive must be crowded with bees, and if this is not the case some of the frames should be removed and the hive contracted by the division-board. This crowding must be done some days before queen-rearing is commenced.

3. The two conditions stated above will cause the bees to start a large number of queen-cells, and these latter should be cared for under favourable conditions, which, in the absence of a flow of nectar, can be secured by regular and continuous feeding with good syrup. The supply of food with which the worker-bees are constantly filling their sacs incites them to build queen-cells and attend to a number of royal larvæ rather than the honey which is already stored in the cells. It is important that queen-breeders should note this condition.

4. A colony can only be set apart for queen-rearing if it has still a number of drones that are well cared for by the bees. A colony that has once destroyed its drones is no use for queen-rearing. The same may be said of one that has commenced driving out the drones, or has already driven them beyond the radius of the brood-nest.

The Grecian Bee.—The Abbé Delaigues in *L'Union Apicole* says that the bee of Greece, *Apis cecropia*, resembles the Caucasian, but is vicious.

SOMERSETSHIRE B.K.A.

ANNUAL MEETING.

A large and interesting meeting of the above was held on Saturday, March 7, at St. Stephen's Restaurant, Bristol. Amongst the sixty persons present were representatives from Bristol, Bath, Taunton, Weston-super-Mare, Frome, Radstock, Portishead, and Bridgwater. Mr. J. H. Burton, M.Sc., secretary of the County Agricultural Instruction Committee, also attended.

Mr. T. W. Cowan, Chairman of the British B.K.A., Editor of the BRITISH BEE JOURNAL, and a Vice-President of the Somerset B.K.A., took the chair at 4.30 p.m. The minutes of the last annual meeting having been read by the hon. secretary, Mr. L. E. Snelgrove, B.A., of Weston-super-Mare, and approved, the report and balance-sheet for 1907 were presented and unanimously adopted. The report showed that the membership had increased during the past year from seventy-five to 120, and, in addition to this, the new list in course of preparation will contain about thirty fresh names, so that by the end of 1908 it is expected that the number of members will not fall short of 200. New branches have been established at Frome, Radstock, Portishead, and Ilton, with one for Cheddar, Wedmore, and Wells, active local hon. secretaries supporting the movement in each district. At Taunton a capable and energetic local hon. secretary, Mr. E. E. Chick, called a public meeting on January 28 last, and the result of an interesting address by Mr. Cowan, who presided, was the enrolment of a dozen new members.

The experts, Messrs. Brewer, Snelgrove, Withycombe, Lang, and Rigg, have had a busy time in giving thirteen demonstrations with bees during the summer and twenty-five evening lectures under the auspices of the County Council, all of which were successful. Mr. Burton, M.Sc., the Director of Agricultural Instruction, who organises the County Council lectures, has been thanked by the respective lecturers for his efforts to make them successful.

The hon. secretary also thanks the many voluntary helpers for their valuable assistance in promoting the welfare of the association.

Four members, Messrs. May, Downes, Lang, and Rigg, have secured the third-class expert certificate of the B.B.K.A., and Mr. May has since successfully passed the second-class examination.

After the business portion of the proceedings had been gone through, the chairman, Mr. Cowan, in the course of a very interesting address, referred to the beauty and mild climate of Somerset, which had induced him to make his permanent home in the county. He then went on to the question of bee-keeping, which he said had been a favourite subject with many ancient writers, and it was also referred to in the still more ancient mythology. Mr. Cowan then touched on the history of bee-keeping since the establishment of the BRITISH BEE JOURNAL in 1873, and the subsequent formation of the B.B.K.A. and the West of England B.K.A., and onward, till the present Somersetshire Association was formed in 1905, which was now in a vigorous state, having obtained help from the County Council. The membership had rapidly increased, and he hoped they would before long have 600 members, seeing that the county was so well adapted for bee-keeping with its good clover pasturage and numerous orchards.

Mr. Cowan also referred to the value of bees to fruit-growers and to the need for a county label for their honey, along with local depots for its sale. One had been already established at Taunton, and as it was expected that the annual show for this year would be held there he hoped they would all contribute to making it a success. He (the chairman) was glad to see Mr. Burton present, and thanked him and his committee in the name of the association for the valuable instruction being given in the promotion of bee-keeping in the county. He looked forward to the time when the bee-industry would be recognised and assisted by the Government of this country, as it was all over the Continent.

Mr. Burton having responded, a hearty vote of thanks was accorded to Mr. Cowan. This over, Mrs. H. Carpenter then distributed the experts' certificates to the several recipients. The meeting then adjourned for tea, to which about forty sat down.

NOTTS BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual general meeting of the above association was held on Saturday, March 7, in the People's Hall, Nottingham, Dr. T. S. Elliott, of Southwell, presiding, in the unavoidable absence of Mr. E. F. Milthorp, J.P., of Newark. The attendance was very satisfactory, and included members of the Derbyshire and Leicestershire Bee-keepers' Associations. Several letters regretting inability to attend were read, among them one from Mrs. P. Scattergood on behalf of her husband, who was too ill to be present.

The annual report and financial statement were also presented, the latter showing a balance in hand of £4 4s. 10d., and

both were adopted. The report showed that the total membership was 208. Thirty-four new members had joined during the year. They had to announce with regret that the Notts County Council had reduced their grant for technical instruction in aid of bee-keeping from £50 to £25, which had to a great extent minimised their usefulness in the county. It was understood that the Council was quite satisfied with the work done for the money spent, but lack of funds had compelled the reduction. They therefore hoped that in the coming session the Council might be enabled to restore the grant to the former sum, especially in view of the experiments in cottage farming which would shortly take place under the Small Holdings and Allotments Act, the cultivation of bees being distinctly advantageous to agricultural and horticultural work. Lectures had been given at the Newark and Welbeck Tenants' Agricultural Societies' shows, and an open-air demonstration at Elston; 148 apiaries had been visited, in which were 558 stocks of bees in frame-hives and 49 in skeps, advice being given as to immediate necessities.

Thanks were passed to the officers for their services during the past year, and the Duchess of Portland was unanimously re-elected president. The retiring committee, together with the district secretaries and experts, were re-elected. Mr. Peter Scattergood was also re-elected auditor, and Mr. Geo. Hayes secretary and treasurer.

Mr. Pugh and Mr. Hayes were appointed representatives to the British Bee-keepers' Association.

There was a competition as usual for the best single 1-lb. jar of honey in liquid and in granulated form, the exhibits being given for the children in the Nottingham hospitals.

In the evening Dr. Elliott presided at a well-attended meeting in the same hall, when medals and certificates were distributed, after which he addressed the members and friends on "Scientific Knowledge in connection with Practical Bee-keeping," pointing out its direct bearing on apiculture. A hearty vote of thanks was accorded Dr. Elliott for his valuable and instructive paper, a desire being expressed that, if possible, it might appear in the B.B.J.

Various novelties and interesting articles were next shown and explained, and finally Mr. T. N. Harrison read a most interesting and very amusing paper on "Bee-appliance Dealing: Its Difficulties and Pleasures," for which he was heartily thanked.

The meeting concluded with the usual prize-drawing. — GEO. HAYES, Secretary and Treasurer.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

"WHEN FOUND, MAKE A NOTE OF."

[7041.] Now that the active bee-season will soon be opening, some small points apt to elude our memory may be put on record, just as reminders of what should be done to tide the bees over the critical spring-time.

Pollen is an utter necessity in the hive if any serious breeding is to take place; therefore, if the bees have not laid up a store from last season, supply it either inside or outside. Wheat-flour and oatmeal answer the purpose admirably, and they can be supplied early in the candy-cake or in a special feeder, with space for both nitrogenous and non-nitrogenous food. Outside it may be given in an old skep smelling of honey, in a box specially fitted up, or in crocus blossoms. I think bees rather prefer pea-meal or lentil-meal.

In cold weather, if watering-troughs can be arranged in such a way that water is mildly warm, bees can work better at loading up, and there is less sacrifice of bee-life. See that your floats prevent bees from drowning. A little salt in the water is beneficial, and periodic renewal of the supply is advisable. Where small streams or ditches are available there is less need to do water "feeding."

Where bees are to be moved short distances, they are apt to return to the site of the old home, unless some precautions are taken. If shifted in winter, they mark the new location at the first flight in spring, but later on some form of "clustering" would prove highly beneficial. In the absence of such, a wide board placed up slanting against the front of the hive, or a bough of a spruce tree, will make them take notes. Moss, fog, or dry grass packed fairly tight into the entrance causes a delay in securing egress, and when they work their way out they spy the changed circumstances, and take mental notes of the new location.

Where feeding is required, and the bee-keeper does not want to start stimulating all over, hives may be stored by the following plan: Select a strong stock, and place overhead a large Canadian feeder. Supply rapidly, and periodically withdraw the stored combs for hives requiring them,

replacing them with empty combs. In this way one stock does the feeding for a good many others, causing less agitation and excitement in the apiary, and saving bee-life, because all colonies are not roused to fly for water and pollen as they would if they were being fed with syrup.

Where stimulating is going on, the food given should be thin, because of the bees having to make many visits to the watering-troughs at such times, and in these frequent flights in the cold, chilling winds the unfortunate bees often never return, being starved to death. The thin syrup minimises this trouble by helping to keep the bees indoors. Some apiarists use little more than sweetened water when feeding in early spring, and thereby claim that they not only stimulate, but conserve bee-life by keeping the bees content at home.

Uniting stocks in spring is a frequent necessity, and fortunately is easily carried out. Use very little smoke, or none at all, and unite in either of the following ways: Get bees on three or four frames in each hive. Place them in the selected hive alternately, not too close together; or place four frames up each side, with a space of a frame-breadth between them; or, thirdly, with a dummy not close-fitting between the two lots, first coating the edges of the dummy with a feather dipped in carbolic acid. In all three cases close up frames to the number required after a lapse of twenty-four hours. As a rule, properly done, no precautions are really necessary.

In rearranging an apiary, select a time when snow is on the ground and the bees likely to be confined for some time, and I think I am safe in stating that no precautions are necessary if the operation is carried out very gently, without any shake or jar. The first flights of spring are short and tentative—mere parades in front of their own doorstep, a simple sentry-go, when only home and the immediate surroundings engage the attention of their visual organs.

In early spring, if bees are throwing out much débris and many dead bees, clear the entrances occasionally with a bent wire, to prevent suffocation of the stock. At times this happens when entrances get clogged, especially in hives where frames are parallel to the entrance, where a whole seam may be chilled.

In starting bee-keeping April is about the best month in which to make a beginning, if one or more stocks are purchased. In this case either get a guarantee from the seller that the colony is in a prosperous condition and free from disease, or secure a practical bee-keeper to make an examination on your behalf. Personally, I would prefer to start with a new hive fresh from the maker, and stock it with a strong swarm in late May or early June. You have thus the best guarantee of health and strength, and begin certain that your apiary starts immune from disease.

Before engaging in the pursuit provide yourself with one or two of the best bee-books you can obtain, and study the matter thoroughly. Where possible, add to this book-knowledge by visiting some apiarian of experience, whose practical manipulations will be invaluable in directing you how to deal with bees, and whose wise words will guide you along the right path. The *side* paths of apiculture are often both mazy and thorny.

Begin with "standard" size goods, and as far as possible stick to one maker, one size of hive, uniform sets of appliances, and so secure that great advantage of interchangeability which adds a considerable amount of sweetness and comfort to the prosecution of the pursuit. Such goods are easier bought, easier sold, more marketable.—D. M. M., Banff.

WANTED, INFORMATION.

DO QUEENS LAY IN QUEEN-CELLS?

[7042.] As Mr. Crawshaw is one of your very useful and suggestive contributors, I am most obliged to him for his generous notice (page 108) of my little article on "Functions of Air-vessels." Not, however, with authority should I write, but as a most interested—and as thoughtful as may be—inquirer among the Nature-studies presenting themselves to the bee-keeper. What I offered in your columns was just the simmering of thought on the subject.

May I revert to another subject which I broached in the B.B.J. a few months ago in the hope of eliciting information? The question was: "Has anyone ever seen a queen lay in a queen-cell?" I never have, but the question has been simmering, with others, for over ten years, and the argument of design seems most strongly to indicate that she does. When are the queen-cells prepared in numbers? Just when the prolific mother-bee has filled up all available comb, and her teeming wealth of eggs requires further outlet. A strong instinct sends her roaming in search of vacant cells. And what does she find? Why, at the bottoms of the combs, or at the sides if there are passages, or through comb-orifices anywhere—just there are cells, and all prominently inviting her stay. The stimuli of the hive, the season, and overcharged ovaries are enough for her, in the absence of the abdominal constriction of worker-cells, to deposit fertilised eggs. The vitality of

(*Continued on page* 116.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

The anxious wish expressed by our young friend Mr. Cruttenden for the resuscitation of the Sussex Bee-keepers' Association is shared by many bee-keepers in the county, as will be seen by recent letters in our pages. There is evidently good material in the county, as Mr. Cruttenden's notes show. He says:

"It is now a matter of some seven years since I became interested in bee-keeping and the possessor of a frame-hive with the idea of engaging in the pursuit on the most modern methods. When my first hive arrived, it struck me as being a very mysterious-looking and complicated affair, which I had a lot of trouble in understanding. However, I was fortunate in meeting with a bee-keeping friend, who helped me out of the difficulty and procured a swarm for me. Eventually, with his aid, along with the information gained from a careful perusal of the 'Guide Book,' my apiary has attained fairly large dimensions, as will be seen by the photo, which shows part of the hives in my home-apiary.

"At one time I had bees in a number of skeps, but I am glad to say that they have now disappeared, with the exception of one, which I keep enclosed in a small cover in memory of those that have gone. With regard to my connection with bees and bee-keeping, there are two things I should like to see brought about—namely, the formation of a Bee-keepers' Association for Sussex, and an arrangement of some sort arrived at by means of which members of the craft could meet at intervals for the purpose of discussing matters of interest connected with apiculture. I refer to people, of course, who are keen on the subject, besides being able and willing to impart their knowledge to those less well informed, but willing to learn. In my own district the number of these is very small. I may say that this part of Sussex is fairly good for bee-forage if we are favoured with decent weather, though the honey-flow is rather late, and after the early fruit bloom is over we have to rely mainly on the white clover for our harvest.

MR. C. H. CRUTTENDEN'S APIARY, UCKFIELD, SUSSEX.

"At one time I had an out-apiary at Crowborough, situated on the moors, and have had good results from the heather: but last year, owing to the dreadful weather, the crop from that source failed completely.

"In concluding my few remarks I may say that about the middle of February last, on examining one of my hives, I was surprised to find a glass-topped box filled with bee-candy, which had been put on about ten days before, completely emptied, and filled with newly-built comb, on which the bees were busy working. I close by wishing that the season of 1908 may be a contrast to the wretched one of last year, to the advantage of all."

("*Wanted, Information*," *continued from page* 114.)

the queen and of the whole hive is at its highest towards swarming-time.

These considerations, mayhap, do not apply to the cases of supersedure or loss of queen. In supersession the queen may be worn out, and the queen-cells are few. It would be expected that now, if ever, the bees would transport some of the worker-eggs. And, at loss of queen, they take a shorter cut still, and convert already tenanted worker-cells into queen-cells, and the worker-larvæ into queen-larvæ. How one wishes that some exact and well-qualified observer, with time and opportunity, could give us the facts, which surely are ascertainable. What we think makes us want to know.

Bee-men, too, often wish to know more of the fertilisation of flowers by bees. At present this information is somewhat scrappy. Cheshire gives us most interesting facts from a bee-keeper's standpoint, but not enough of them. Mr. Step, in his "Romance of Wild Flowers," is just as interesting: text-books of botany now and then deal with the subject, and so does Mr. Shoosmith sometimes in his excellent little 1d. issue, *Nature Monthly Reader*; but, as far as I know, in all cases, except that of Mr. Cheshire, "*bees and flowers*" are only incidental to a larger purpose. And, I fear, a good selection of lantern slides to illustrate a subject so fascinating to many bee-keepers, and important to fruit-growers and others, is still a desideratum with even the B.B.K.A.

Would it not be seasonable just now to ask bee-keepers who have the leisure (perhaps they are few) to make close observations during the spring and summer, sending you the results, which may help to settle the question whether bees visit flowers of different kinds during one journey, and, if they do, under what circumstances they do so?—S. Jordan, Bristol, March 14.

VALUE OF POLLEN.

[7043.] In the early spring even in the month of January if weather should be genial—bees may be noticed humming about the gorse or whin, the earliest wild flower which produces pollen. Flowers of this shrub may be found in bloom in every month of the year. It is, however, in the latter part of February that they begin to blossom in quantity, and go on producing freely till end of May or later. It is a most valuable shrub to the bee-keeper, and in places adapted for its growth it will be found a prolific producer. Close to my hives there is a field well stocked with bushes bristling with golden blossom, and which is taken advantage of by my bees in the early spring. Every locality is not favoured with this flower, and some have to depend on the less certain and continuous supply yielded by snowdrops, crocuses, willows, &c.

As the spring advances the number of pollen-laden bees rapidly increases, and by the end of March one may count from twenty to forty bees per minute tumbling into the hive with their yellow loads about midday. This gives a good index of the prosperity of the colony, the amount of pollen being regulated by the needs of the hive. Mixed with water and honey, it forms the nourishment for the numerous young grubs. The pollen-grains vary much in form, colour, and size. The colour is usually some shade of yellow or orange, though crimson, green, and even black may be seen. When reading "The Bee-master of Warrilow" I was struck with the description of the rose-pink pellet which the bee-man of the forties is represented as saying that he has never been able "to trace to its flowery origin," and Tickner Edwardes very happily describes it as "singling out its bearer on its passage through the throng as with *twin danger-lamps* doubly bright in the morning glow."

As I noticed this coloured pollen more frequently than usual last summer, I was curious to find where it came from. I was fortunate in getting several pellets that had been dropped at the hive-entrance. On putting them under the microscope, the grains were quite characteristic. A strange thing about the pellets I picked up was that when they were put away in a small box the colour was changed next day to a reddish-yellow. The difficulty was, however, to find the flower from which they came. After trying all likely sources I could think of I found that *Geranium Robertianum*—commonly called Herb Robert or Stinking Cranesbill—yielded pollen-grains exactly similar. I remembered having seen bees working on this plant, though at the time I did not notice the colour of the pollen they were collecting. After my discovery I used to look for this plant along the roadsides, but was not fortunate in finding bees at work on it.

I find my bees unusually busy to-day (March 2), although the hills are white and there are patches of snow in some of the fields. The sun, however, is warm, and the hives are in a sheltered position. They are very lively on crocuses and wallflowers. Another flower that is not usually classed as an early pollen-bearer is affording abundant supply to-day, *Veronica Buxbaumii* (Buxbaum's Speedwell), a weed which was rather rare

some years ago, but is now very common in some gardens. The bees are humming merrily over the bright blue flowers, which are yielding them large pellets. Name sent for reference.—F., South Ayrshire.

CRITICISM CRITICISED.

[7044.] In reply to Mr. Crawshaw's request on page 27, I have cheerfully taken the trouble to give him a lesson on the "che-mystery" of honey and fats, and yet he persists in calling a fat a carbohydrate! Really, the "capping" quoted above is too disappointing! I always take a lump of fat in my tea—my wife puts it there in the form of delicious thick cream! But a fat is not a carbohydrate! I also take my share of carbohydrate in the beverage, and if it is not sweet enough I politely ask for more. But I say again, a fat is not a carbohydrate!

Many a true word is spoken in jest, and one is almost inclined to believe that "Cappings of Comb" is not intended to be taken seriously. May I, however, suggest that our friend should study his lesson again with something more than a frivolous mind? It is to be hoped that readers of the B.B.J. do not imagine his cleverness as a critic in general matters extends to chemistry, or they may become muddle-headed!

Instinct and common-sense tell us what foods are good for us, but we have to depend upon chemistry to find out the way in which they benefit us. No one who fully understands chemistry would think of relying entirely on analysis for ascertaining the food-value of a substance. Those who did might find themselves purchasing a load of farmyard manure as food for the household or provender for the live stock. Common-sense, however, comes to the rescue, and the buyer simply asks for an analysis of a substance he knows to be a wholesome food. We might even imagine the average bee turning up her clypeus on being offered acetic acid; but if we could tell her that honey is composed of carbon 12 atoms, hydrogen 24 atoms, and oxygen 12 atoms, I venture to say she would understand why bees keep so snug and warm through winter. For honey *is* a carbohydrate!

And now, Mr. Crawshaw, may I beg of you not to misquote correspondents for the sake of a joke? And please do not forget a fat is not a carbohydrate!—S. R. P. Fisher, pharmaceutical chemist, Seaforth, Liverpool.

MAKING BEE-CANDY.

[7045.] I have been so successful with candy-making that I noticed some reported failures by those who are supposed to follow Bro. Columban's recipe. When consulted by friends with regard to their failures I have found that these sometimes occur owing either to their being supplied by their grocer with the wrong kind of sugar, or being too frightened to dip their finger into the syrup. I find that the best method of overcoming the last-named difficulty is to dip the stem of a clean clay pipe into cold water, then into the boiling syrup, and immediately cool it again in the same way. This done, the candy, if boiled enough, will slide off clean from the stem; therefore boiling must cease at once, and the mixture dealt with as directed in the "Guide Book." If my idea is of any use, it may assist some of your inexperienced readers.—J. R. C., Exeter, February 17.

THE "CHAPMAN HONEY-PLANT."

[7046.] I can fully endorse all your Bristol correspondent Mr. Glover says of the "Chapman honey-plant" (7003, page 65), and was surprised to learn from the editorial footnote of its failure in some districts. This would probably be in the northern counties. Here it is invariably vigorous, and never fails to attract immense numbers of bees. The seed, however, often germinates badly after such a season as that of 1907. In response to your request as to the height it attains, I may say the plants are often fully 8 ft. and 9 ft. high, in a suitable position.—J. E. Harriss, Pershore.

RE-PACKING HONEY AT SHOWS.

[7047.] Having assisted Mr. W. Herrod during the last two years in the packing, staging, and re-packing of honey exhibits at some of the largest honey shows in the United Kingdom, I am tempted to add a few lines to those which have already appeared in the B.B.J. on this subject. During my experience I could not help observing the wide dissimilarity (I might say the originality) of methods in packing, some being quite amusing, others both troublesome and annoying. Many exhibits are heavily over-packed, while not a few are put up in all too flimsy a fashion for transit on English railways. I should say that almost half the total exhibits were unsatisfactorily packed, bearing two points in mind—(1) the rough treatment they are bound to meet with during transit, and (2) the excess of time and trouble that must perforce be devoted to the packing and re-packing.

To those not yet initiated in the management of a big honey show it would come as a surprise to see the amount of work connected therewith, and the extra labour entailed merely because the ex-

hibits are not forwarded properly packed. My own conclusions with respect to packing are that there is practically only one satisfactory method of packing sections for the show-bench, and that is to use the spring-crate described in the "Guide Book," while for extracted honey there are only two reliable methods I know of—viz.: using some kind of wooden box similar to that shown in "Guide Book" (page 91), with either wooden partitions or separate cardboard divisions, the latter for preference, as if a smash *does* occur the resultant mess is confined to the one compartment. A "universal fastener" should also be attached to lid, and the clasp tightened with a piece of wood, and finally a single screw put in lid (cord may be employed if greater security is desired).

Exhibits thus packed rarely take any harm, and only require one or two minutes to unpack and re-pack, whereas those packed in an amateurish and often careless fashion may take a considerable time to re-pack, besides involving the probability of their being damaged in handling, thus causing the dissatisfaction expressed in your pages.

I feel certain that if honey exhibits were always reasonably packed in the first instance there would be no complaint of breakages; when these do occur it is not difficult to put the blame on the right shoulders.—O. R. Frankenstein, Second-class Expert, B.B.K.A., March 6.

FOREIGN COMPETITORS' METHODS.

[7048.] The following advertisement (before me as I write) will prove of interest to British bee-keepers, and to readers of the B.B.J. in general:

NO RISE IN PRICE.

Notwithstanding the failure of the English honey crop, and the corresponding high prices,

THE FINEST NEW SEASON

JAMAICA HONEY

Is the Choicest ever offered, and is SUPERIOR to most ENGLISH and SCOTCH, although only HALF THE PRICE per lb. Imported direct from the beautiful natural gardens of Jamaica.

FINEST SNOW WHITE HEATHER.

Per jar, ½lb., 4½d.; 1lb., 8d.; 2lb., 1/3; 3lb., 1/9; 7lb. tin or jar, 3/6.

DELICIOUS CLOVER HONEY.

Per jar, ½lb., 4d.; 1lb., 7d.; 2lb., 1/1; 3lb., 1/6; 7lb. jar or tin, 3/-

Much cheaper, children like it better, and it is far more wholesome than cow's butter.

If I am correct in my view, I believe that no heather-honey is produced in Jamaica, nor is there any absolutely unmixed clover-honey. If this is so, it ought, I think, to be illegal to apply incorrect descriptions to goods sold to compete with the genuine varieties. I should be glad of exact information on these points. If I am right, I will communicate the address of the firm to the British Bee-keepers' Association, who may be able by a friendly remonstrance to protect the interests of British bee-keepers. No one can object to straightforward pushing of Jamaican honey on the English market, so long as there is no misleading description of it.—W. J. Farmer, Redruth.

NOTES FROM THE I.O.W.

[7049.] In reply to Mr. T. E. Atkins (page 104), I could not see that the bad weather of last summer made any difference to the progress of the disease. There were not so many diseased lots as in the previous year, because most were already dead. The two districts that had been so far free from disease then went under; consequently now not a single spot has escaped. As a proof of the almost complete effacement of bee-life, I had this week a letter from the secretary of a flower show committee that represents five rural parishes refusing a generous offer from a local clergyman to provide a bee-tent and lecturer for the show, on the ground of its being an impossibility to procure a hive of bees in the neighbourhood.

It may not be generally known that the disease is liable to break out at any time of the year, but is perhaps worse just before white clover is in bloom, and again in August, September, and October. Adult bees suffer more than young ones. Swarms are more susceptible than stocks, and in some cases they will be dead in less than a fortnight, whilst the parent stock will live for months afterwards. Brood in its various stages is never affected, but meets its doom by being chilled through paucity of bees. There are a few apiaries (perhaps they could be counted on one's fingers) that have escaped until now, a fact which has been clearly proved not to be owing to any preventive measures being taken or medicine used, but which I believe to solely depend on a greater degree of vitality or some innate disease-resisting power possessed by those stocks and not by others—a theory ably set forth by Mr. G. W. Bullamore (page 106) in connection with foul and black brood.

Any progressive bee-keeper must deplore the fact of a few hives which contain infected stores being left about as a source of danger, but anyone with any experience as a touring expert knows what a hopeless task it sometimes is to get even some mainland bee-keepers to see the danger of leaving foul-brood-infected combs and hives about in the vicinity of healthy bees. Your anonymous correspon-

dent from Havant (page 103) evidently called on one cottager who kept bees in a careless, slipshod way, such as there are a few all over the kingdom, and from his knowledge of this one case proceeds to tar over the whole island with the same brush. He then brings up our last annual report to clinch the nail he has driven, and prove our lack of energy, &c. However capable a bee-keeper "W. R. B." may be, he is a little out of his depth when dealing with association statistics; otherwise his eyesight must be weak. If he will kindly adjust his spectacles and read again, he will see his need of the multiplication table to more than double his figures. When all their bees are dead, island people are no more likely to subscribe to a bee-society than is "W. R. B." His suggestion of legislative measures being adopted is about as hopeless as were the attempts to procure them on the foul brood question.

It remains yet to be discovered in what way the disease is communicated to the bees. In most zymotic diseases it is the weakest that go to the wall, and the young usually have not the resistant powers of the mature; while in our case the strongest stocks go first and the adult is the first to suffer. Does this point to some deleterious substance being gathered by the foragers, or simply a case of Nemesis at the heel of the robbers?—H. M. Cooper, Thorley, I.O.W., March 13.

BEE-NOTES FROM STAFFORDSHIRE.

MIGNONETTE AS BEE-FORAGE.

[7050.] The season of 1907 was not so disastrous to me as to some who have reported in the B.B.J. By a little feeding in June to those which had not begun to store in the super, I was able to gather some from all stocks, in some cases as much as 30 lb. I found the bees consumed the first honey stored, and when the weather again permitted succeeded in refilling with a second supply. Comb-honey was at a premium; many combs began, but few finished fit for market. Bees up to the present around here have wintered well, except in the case of swarms which were left to care for themselves, and are now non-existent. I have had fewer dead bees this year in front of hives than I ever remember. My own have all come through safely, with the exception of one hive with parallel frames, which contained a stock which swarmed last season. In January I discovered the winter passage did not extend to the end comb, and part of the cluster in the cold weather must have been on the comb next the front of the hive, as they were found starved on that side of the comb. Having another hive of the same kind, and fearing a like result, I looked in on January 17; but everything was safe, and, judge of my surprise, there was sealed brood on two combs. The crocus and salix are now yielding pollen.

February 24 weather changed for the worse, snow falling.

"Balling" Queens. This is an occurrence outside my experience, although I have opened hives in every month of the year, and in my novice days the same hive week after week. It has occurred to me whether those who have cause to complain of "balling" use a smoker when operating, and excite the bees too much by so doing. I simply draw a carbolic cloth over the frames, and do what is required quickly and quietly. Just twelve months ago I thought such a thing had happened, for on taking a walk in front of the hives at mid-day I saw a queen on the sloping board between the alighting-board and the ground (the hive had not been disturbed). Not knowing which hive she came from, I warmed her in my hands, and then, opening the hive on which she was discovered, placed her through the feed-hole of the quilt on the frames. She suffered no ill-effects, and was one of the most prolific last season.

Echinops Sphaerocephalus. — After seeing the photo of the above plant on its first appearance in the B.B.J. some time ago, and Mr. W. F. Reid's glowing description of its merits, I determined to give it a trial the following season. In February I obtained some seed, and by sowing in a warm temperature and gradually hardening off and planting outside in April was able to flower the plants the same season. I may say the plants attained the height of 10 ft., and I thought what a glorious crop of flowers the bees would have to gather honey from. When the flowers began to open the garden seemed alive with insects; there were hovering flies, gnats, ordinary flies, and large flies which resembled bees, wasps, three varieties of humble-bees, leaf-cutter bees, and amidst all these you might have found a solitary hive-bee on a flower, although the plants were situated only a few yards from the hives. After watching them for a month, I was so disgusted that I chopped the plants down and threw away the roots. In comparison with the above, I should like to draw the attention of bee-keepers to a good bed of mignonette, which the bees will be found working even in the midst of the clover harvest. The great fault in dealing with mignonette is sowing too thickly: if on good ground and well thinned, one root will cover 6 in. of ground. There is a continuous bloom for three months, and last year some of my plants were flowering in November.—J. Dawson, Wolverhampton.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

H. B. Penruddocke (Upper Dicker).—*A County B.K.A. for Sussex.*—Reference to the correspondence in our pages during the past few weeks points to a prevailing desire among the bee-keepers of Sussex for the restoration of the county association. This being so, we need only refer to the letters on the subject and to the advertisement on page v. in order to give force to what we have already said on the matter—viz., the want of an active bee-keeper willing to undertake the post of hon. secretary. Mr. W. Edwards, though unknown to us personally, seems to possess the right spirit, and we trust his generous offer to "start the ball rolling" may be well responded to, and be the means of working up a county B.K.A., with a local secretary in Upper Dicker and other districts, as may be desirable.

W. B. W. (Sheffield).—*Making Bee-candy.* For those who make bee-candy in large quantities a sugar-boiler's thermometer would no doubt be very useful, but that implement (obtainable from any scientific instrument maker) costs about 7s. 6d., and if Bro. Columban's plan of "dipping the finger of one hand first in cold water, next in the boiling sugar, then again in cold water," &c., requires more courage than an amateur candy-maker can muster, a simple way of overcoming the difficulty is to use the stem of a new clay pipe in lieu of the finger, and proceed as before directed. This method is adopted by many, and is clearly described on page 117 of this week's issue.

G. H. Mullis. *Flour-candy for Early Spring Food.* 1. There is nothing in dead bees sent to aid us in naming cause of death, nor can we tell why they were soaked wet with some liquid (probably syrup). 2. Candy as sample is not at all fit for bee-food in early spring. Hard and coarse in grain, and overloaded, as it appears to be, with pea-flour, such food is enough to cause the death of bees if they are unable to take frequent flights in order to discharge the natural fæces consequent on consuming so much nitrogenous food.

A. Wakerell (Croydon).—*Making Bee-candy.*—Your sample is not well made, being insufficiently boiled. Without knowing whose recipe it was made from, we may say it is rough in grain, and in a short time will become as hard as stone.

Beginner (Somerset). — *Stimulating Breeding.*—1. The end of this month is soon enough to begin stimulative feeding, especially when flour-candy is used (see above reply to G. H. Mullis). 2. First let us say queen-rearing is an item of the craft not at all suitable for a beginner, no matter how intelligent he may be, and we do not recommend it to be tried till experience has been gained. For the rest, we advise you to procure a copy of the nineteenth or new and enlarged edition of the "Guide Book." It contains a greatly-extended chapter on queen-rearing, giving the latest methods and numerous new illustrations connected therewith.

N. B. (Somerset).—*Working for Comb and Extracted Honey.*—1. To pay as much as 2s. 6d. per week for hire of an extractor, even with only three hives, would be poor economy, seeing that a useful secondhand extractor can sometimes be had for as little as 10s. 2. The cause of bees gradually becoming less in numbers after the end of June is the fact of diminished breeding after that time, owing to the falling-off in honey-storage. To counteract this, experienced bee-keepers often encourage queens to rear fresh batches of brood in the early autumn by stimulative feeding.

Honey Samples.

A. H. (Falkirk).—No. 1 sample is of good quality in flavour, colour, and consistency. No. 2 is what we might appropriately term a nondescript honey. It may have been sold by your local tradesman as "pure English clover-honey," but in our opinion it is nothing of the kind, and has no legitimate claim to that appellation. Brown in colour and without the slightest trace of the true clover flavour, it appears also to have been reliquefied after granulation, and in the process has been so overheated as to give it a "burnt look," so to speak.

F. H. (Wiltshire).—The flavour of your sample is not bad, but on other points it is not suitable for table purposes, though fit for home use. It will do very well for bee-food.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FINEST ENGLISH HONEY, four 28 lb. tins, 7d. lb.; samples 2d.—WAIN, Thorpe Bank, Wainfleet. e 93

100-EGG INCUBATOR, complete, reliable. 25s.; exchange Bees.—ROSEHURST, Pannal Ash, Harrogate. e 96

HIVES, several, mostly with Comb in Frames, 5s., 7s. 6d., 10s., cash; also "Wells" Double, 20s.; or exchange for Bees.—WARD, 33, Norfolk-road, Erdington. e 86

EXPERT, with large Apiary, requires gentlemanly youth as Pupil, eventual partnership if desired. No premium if help given. Board, 25s. per week.—"Z.," c/o "Bee Journal." e 47

WHAT OFFERS? — 10 Stocks of Bees (with young Queens), all yielded surplus 1907; 8 empty guinea Hives, Ripener, 56 lb. Honey Can (with handle and lock), 90 worked-out Shallow Frames, 94 Sections (with foundation), 16 tin Feeders, 2 Straw Skeps, 12 28 lb. Tins, 20 "Swarthmore" Mating-boxes, packed carefully, f.o.r.; any quantity supplied.—DAWSON, Rookery-lane, Wolverhampton. e 91

EXTRACTED HONEY, 4 dozen 1 lb. Screw-cap Bottles, splendid quality, 8s. 6d. dozen; eggs, for hatching, from pure Buff Orpingtons, 2s. dozen, birds have unlimited grass run; 3-Frame Observatory Hive, revolves on base, glass both sides, and shutters, cost £2; accept 15/-, honestly worth double.—ARTHUR TREBBLE, Romansleigh, South Molton. e 97

FOR SALE, 12 splendid Stocks, in new "W. B. C." Hive, seven with 1907 Queens, five 1906, all in good condition, very cheap, together or separate.—Foresters' Arms, Paddock Wood. e 89

24 1 lb. Screw-cap Jars choice Honey, 19s., carriage paid.—LEY, Easton, Stamford. e 88

2 CWT. GRANULATED HONEY, mixed source. Enquiries solicited.—HUDSON, Crane Hill, Ipswich. e 94

FOR SALE, 16 Healthy Strong Stocks Bees, on Bar-Frames, with Appliances. What offers, cash?—J. STONE, Enford Downs, Wilts. e 92

13 IN. LAWN MOWER, Ransomes', condition as new, 15s. — W. HOCKIN, Holsworthy, Devon. e 95

WHITE WYANDOTTE EGGS (Goode's), 2s. 6d. dozen; First Cross Rosecomb Ancona-Wyandottes, 1s. 9d.; best winter layers of tinted eggs.—TOLLINGTON, Terrace, Hathern. e 98

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CLOVER HONEY, good quality, 1 lb. Screw-cap Jars, 77s. gross, 21s. ¼ gross; ½ lb. ditto, 45s. gross, 13s. ¼ gross; Honey, in bulk, 48s. cwt.; samples, carriage paid, 8d. — Further prices and particulars from TURNER BROS., Sandpit Poultry Farm, Croydon. e 86

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NOTICE.

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MARCH 26, 1908.]

The

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &C., AND W. BROUGHTON CARR.

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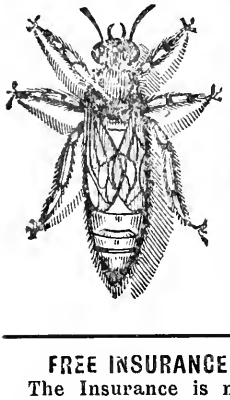

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The annual general meeting of members was held at 105, Jermyn Street, S.W., on Thursday, March 19, Mr. T. W. Cowan, F.G.S., presiding. There were also present Miss Gayton, Colonel Walker, General Sir Stanley Edwardes, Messrs. S. S. Abbott, R. T. Andrews, L. Belsham, F. Bernau, T. Bevan, W. Boxwell, G. W. Bullamore, W. Broughton Carr, L. S. Crawshaw, G. Dow, C. L. M. Eales, C. H. Evershed, E. Garcke, J. Garratt, L. L. Goffin, Jas. Grimwood, W. Herrod, P. S. W. Jefferies, R. Johnson, Mrs. Johnson, J. B. Lamb, R. Lee, J. C. Mason, Mrs. Mason, L. McN. Stewart, A. G. Pugh, W. F. Reid, G. H. Sander, E. R. Seadon, G. H. Skevington, E. D. Till, E. Walker, and the Secretary.

The minutes of the last annual meeting having been read and confirmed, the Chairman referred in feeling terms to the loss the society had sustained by the death, a few days previously, of Mr. P. Scattergood, who had served the Association as a member of the council and as an examiner for a number of years past. On his motion, a vote of condolence with the surviving relatives was passed.

In moving the adoption of the report and balance-sheet, Mr. Cowan made special reference to the lamented death of the late vice-chairman (Mr. T. I. Weston), and congratulated the society on securing the services of Mr. W. F. Reid as successor. He was glad to say that the work of Mr. Herrod at Swanley continued to be eminently satisfactory, and although the number of candidates for examination was slightly less than last year, it was gratifying to know that the individual work was of a higher standard. A larger number of stocks were insured under their scheme than under the former policy, and the work in connection with exhibitions was also to be commended, the show at Lincoln proving to be a very fine one. The later shows, as might be expected from the abnormal season, showed a falling-off in the number of entries. The interest at meetings was well sustained, and except from the standpoint of finance, there was reason for satisfaction with the report and the work done.

The resolution was seconded by Mr. T. Bevan, and carried unanimously.

On the motion of Mr. Jesse Garratt, seconded by Mr. Crawshaw, a vote of thanks was passed to the retiring council and officers.

Mr. Till moved, and Mr. Pugh seconded, a vote of thanks to the Royal Society for the Prevention of Cruelty to Animals for the use of their boardroom, which was carried.

The vice-presidents, hon. members and corresponding members, treasurer, auditor, and analyst were formally re-elected for the year 1908, on the motion of Mr. Reid, seconded by Mr. Lamb.

Mr. G. H. Skevington and the Rev. H. R. N. Ellison were elected to fill vacancies on the council caused by the deaths of Mr. Weston and Mr. Scattergood, subject to the gentlemen named signifying their acceptance of office upon the usual printed form for the purpose, and the retiring members of the council were re-elected upon the proposition of Mr. Herrod, seconded by Mr. Crawshaw.

A proposal emanating from the Leicestershire Association, in regard to the provision of facilities for the insurance of experts by the county associations, was referred to the council for consideration.

It was resolved, on the motion of Mr. Cowan, seconded by Mr. Reid, and supported by Colonel Walker and Mr. Crawshaw, that a congress of bee-keepers be held at the Franco-British Exhibition on a date convenient to French apiculturists (say Thursday, June 25, next), to which French and English apiarians be invited. Meetings to be held both morning and afternoon. Tickets of admission 5s. each, to include the cost of luncheon. Also that an exhibition of apiarian appliances be arranged for, and that a guarantee fund be raised to meet the expenses (estimated at £20) of the congress and the care of the exhibit.

Subsequent to the Conversazione of members a short meeting of the council was held, when the following new members were elected:—Mr. J. R. Baxter, Downington House, Lechlade, Glos.; Mr. George Bryce, Aldershot; Mr. W. Martin Burnham, Suffolk House, Upper Tulse Hill, S.W. Mr. T. W. Cowan was unanimously re-elected as chairman of the council for the ensuing year, and Mr. W. F. Reid as vice-chairman.

It was resolved to contribute the sum of £13 10s. towards the prizes for honey at the Dairy Show in October next, the classification to be as in 1907.

The following gentlemen were appointed as a special committee having charge of the arrangements for the congress of bee-keepers and the exhibition of appliances at the forthcoming Franco-British Exhibition, viz.: Messrs. W. B. Carr, E. Garcke, W. F. Reid, J. B. Lamb (hon. secretary to the committee), and Mr. Ernest Walker.

The next meeting of the council will be held on Thursday, April 16.

CONVERSAZIONE.

At 6 o'clock, after having partaken of refreshments, the company reassembled under the chairmanship of Mr. Cowan, who opened the proceedings by saying

that two special subjects would be introduced for the consideration of the meeting—namely, (1) "Suggestions for Improving the Welfare of Bee-keeping," to be brought forward by Mr. E. Garcke; and (2) "Spring-Feeding." Then there were a number of exhibits which would afterwards be put on the table, concerning which the opinion of the members was invited, one in particular being drawings of the ancient "Normansell" cup in the possession of the Worshipful Company of Wax Chandlers. After that there would be a council meeting, which he (the Chairman) hoped all members of that body would stay to attend, as there was certain business that must be done. He then called on Mr. Garcke to introduce the subject standing again his name.

Mr. Garcke: The question to which I desire to direct your consideration is whether the existing organisation for the furtherance of apiculture and for the development of practical bee-keeping is adequate, and whether it is possible to extend it and to increase its efficiency.

The welfare of bee-keeping depends largely upon the accessibility of the excellent literature upon the subject, but mainly upon the facilities which exist for imparting practical tuition in the adoption of modern methods and appliances, and for this purpose demonstrations, lectures, and exhibitions at convenient centres, as well as the periodical inspection of hives, are necessary. To enable these services to be properly and efficiently performed it is necessary to provide funds, and thus the welfare and progress of bee-keeping are found to be measured by the financial resources of the associations which are concerned with its development. Prizes have to be offered at exhibitions for excellence of honey and for improvements in appliances, and inducements for excellence of honey should be offered for research work, and the cost of investigating and removing causes of bee-diseases has to be incurred, and in a variety of other directions outlay has to be made by the representative organisations.

In order to form a correct estimate of the extent of the work to be done, it is desirable to take at least a rough survey of the field of our operations. It is regrettable that no complete census exists of the number of bee-keepers in the country or of the honey produced. We are forced, therefore, to make approximations of the required data.

Some years ago Mr. Weston made an enumeration of the bee-keepers in Essex, and quite recently Mr. Till and Mr. Schofield have had a census taken of the bee-keepers in Kent. Taking the figures produced by these efforts as a basis, I estimate that there are about 126,000 bee-keepers in the British Isles, and this figure practically coincides with an estimate which Mr. Young has been good enough to make for me.

I consider, however, that the bases taken for these estimates are too favourable when applied to the whole country. Kent, which is the Garden of England, offers conditions which do not exist in many other parts of the country. It is necessary to exclude from the estimate the large cities and the industrial and mining centres. Omitting, therefore, the county of London, parts of the county of Lancashire, and portions of the population in Staffordshire, Yorkshire, Durham, Northumberland, South Wales, and other parts, I arrive at the figure of 90,000 as the number of bee-keepers in the British Isles.

For many reasons, however, it is advisable to confine our consideration to the rural districts of England, omitting Scotland, Ireland, and Wales, and I think that a fairly correct estimate for this area will show about 63,000 bee-keepers, or, say, one bee-keeper for 350 of the population. I think it will be admitted that this is not a bad proportion.

The honey imports from abroad, amounting to about £35,000 per annum, imply, however, that the home production of honey is not equal to the demand, and that the inferior quality of the imported honey is indicated by the low price which it yields.

Coming now to the question of the organisations of bee-keepers in the country, I find that there are about twenty-seven county associations, and that their membership amounts in the aggregate to about 6,500 members, or roughly 10 per cent. of the number of bee-keepers. There are about thirteen counties in England, omitting London, which have no association. The foregoing figures suggest the conclusions that the number of bee-keepers in the country is fairly large, but that the number of stocks is relatively small, and that the output of honey is not equal to the demand or as large as it might be, that probably as much honey is imported from abroad as is produced at home. A further conclusion to be drawn, and one to which I wish to draw special attention is that although the number of bee-keepers in the country is not apparently unsatisfactory, the proportion of bee-keepers who belong to any association leaves much to be desired. Moreover, most of the associations are not in affluent circumstances. Omitting two or three societies whose cash balances are over £100 each, the available resources of the others average only about £15 each. In the aggregate they have about £500, which is a large sum if it were consoli-

dated, but divided into small sums it serves very little purpose. The total income of the county associations is £1,200 per annum from members' subscriptions, £500 contributions from the County Councils, and £200 represents donations and special receipts, or a total revenue of less than £2,000 per annum for all the associations other than the British Bee-keepers' Association, which has an annual revenue of under £150.

About 325 members out of the total of 6,500 members—that is to say, about 5 per cent.—pay 10s. and upwards per annum, and 115 of these pay £1 and upwards.

As showing the ability of a central organisation to obtain a larger average subscription than a county association, I may mention that in the case of the British Bee-keepers' Association 25 per cent. of its members pay 10s. and upwards, and the majority of these pay £1 and upwards. The average subscription of the remaining 6,200 members of all the associations works out at about 3s. per annum.

If the thirteen counties which at present have no associations produced the average number of members, the membership-roll of 6,500 would be increased by 1,000, but it is not merely in counties where there are no associations that there is scope for increase of membership. Cumberland has one subscriber for 450 of the population; Lincolnshire has one member for 700 of the population; and Surrey has one member for 1,100; while the average of all the associations is only one member for 4,000 of the population. These figures show what can be done by the energy and efficiency which have characterised the three associations I have mentioned.

If all the county associations could be brought up to the standard of at least the Surrey Association, which does not show the largest average, we should have 22,000 members, or, excluding Lancashire as well as London, close on 20,000.

Merely to show that this is not a sanguine statement, I would ask you to take the average membership of the Cumberland and Lincolnshire Associations, and assume that all the counties of England, Scotland, and Wales (excluding Ireland) could be brought up to this average standard, and omitting, as before, the county of London and the industrial or town populations of the other counties, we should have over 56,000 members; and if we take the average subscription at only 2s. 6d. per member per annum, we should have a gross revenue of £7,000 per annum.

The advantages of separate county associations are obvious and considerable; their local character enables them to secure the patronage and support of local persons of influence. The twenty-seven county associations I have referred to have between them about 330 presidents and vice-presidents, including peers, Members of Parliament, Justices of the Peace, County Councillors, and other persons of good social position, who are able to aid in many ways the objects of the county associations, and this advantage is especially noticeable in the case of local bee-shows. Moreover, separate organisations possess the advantage of being able to keep in direct and personal touch with their members, which is of the utmost importance for the best development of apiculture.

The organisation of separate county associations, however, presents some disadvantages unless supplemented by a strong central body able to bring about co-ordination and combination. In counties where there are no associations, for instance, it is nobody's business to take the initiative, and any efforts made by the British Bee-keepers' Association to assist in the formation and development of local associations only weakens the parent organisation, for all the revenues flow into the local association, whereas all the initial expense is incurred by the British Bee-keepers' Association.

There are many other directions in which a central body is found to be absolutely necessary for the protection of the interests of bee-keepers as a whole. The British Bee-keepers' Association has for some time past carried on important conferences with the Board of Agriculture, and I believe I am correct in saying that it has been instrumental in a very large measure in securing grants from County Councils for the benefit of the county bee-associations.

None of the existing county associations are strong enough or representative enough to obtain support from Government Departments for bee-keepers throughout the country, nor are they able to bring the necessary influence to bear on national institutions and other societies, because they cannot profess to speak on behalf of bee-keepers throughout the country. Then, again, the efforts of the various associations lose a good deal of their efficiency by being divided instead of united.

The desideratum, to my mind, is the constitution of a strong federation of all associations, and the formation of branches in districts which at present are without local organisations. What I venture to think we have to strive for is a consolidation of our forces, and a distribution among individual bee-keepers of the advantages which such consolidation would produce. If this were done on proper lines and in a thorough manner it is difficult to see what objections there can be to the

suggestion. I do not, however, wish to despise the practical difficulties of securing unanimity, and I fully recognise that the adjustment of all the details would cause some heart-burnings. The advantages of such an arrangement, however, are so considerable that I cannot but think that it behoves all of us to approach the matter with an open mind, and the only suggestion that I would venture to throw out is that it is a matter which it might be of interest to have discussed at a conference of the secretaries or other leading representatives of the various county associations. (Loud applause.)

(Report continued next week.)

Obituary.

MR. PETER SCATTERGOOD.

We deeply regret to record the death of Mr. Peter Scattergood, which took place at his residence, Gladwin House, Stapleford, Notts, on the 17th inst., from heart failure. He had just past his fifty-third year.

The well-known figure of Mr. Scattergood will be sadly missed from among bee-keepers not only in Notts, but throughout the Midlands. He was, we believe, the oldest member of the Notts B.K.A. at the time of his death, having been present at the preliminary meeting prior to its formation in April, 1884, and since that time had remained one of the most active members of its council.

A view of Mr. Scattergood's apiary, with himself and wife, appeared in our issue of January 13, 1898, and from the notes written by himself we gather that he came from a bee-keeping family, an uncle of his having some forty years ago owned about 240 colonies of bees in North Notts. Our late friend was in all things he undertook (and they were many) a busy and prominent worker, and he will be greatly missed in the place where his life was spent; indeed, it may be truly said few men have so long a record of service in the causes of temperance, religion, education, and general philanthropic work among his fellows.

The public offices filled by Mr. Scattergood would make a long list, but readers of the B.B.J. know of him mostly in connection with apiculture. He was a successful exhibitor at shows, a first-class expert of the B.B.K.A., while later he judged at many leading shows, and became himself an examiner of candidates for the parent association.

In all of these capacities Mr. Scattergood rendered useful service to the parent association (of which he was a loyal supporter) and to the craft generally, on whose behalf we offer sincere sympathy to his widow in her bereavement.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[7051.] As I write (March 23) the bees are having their first real spring flight, for ever since March came in there have been very few days on which a single bee has been able to leave its hive. I hear of many stocks that were alive and taking flights as early as February being now dead! No doubt the cold summer of 1907 and the shortage of stores prevented late breeding, so that the bees when packed for winter were almost all old, and after lingering on while hibernating died off rapidly when the year turned and in February. Those who followed good advice and "fed up" in the autumn will now reap the benefit of that "stitch in time."

It is of no use to cry over spilt milk, and we must endeavour to make the best of such stocks as are left, and by careful attention build them up to full strength for the honey-flow. The late, almost flowerless spring points to the need for a supply of pea-flour for a few days till natural pollen can be gathered. Districts vary so much with regard to pollen plants that every bee-keeper must use his or her own judgment in the matter of giving an artificial supply. Advantage should be taken of every warm day for taking a look inside such hives as are not well supplied with stores, the condition of each stock being noted on the register. This done, the welfare of each stock may go forward as the spring advances without a break.

Flour-candy.—I made some of this some years back, and took every care in its manufacture, yet it was never a success with me. Nor have I ever met a single practical bee-keeper who advocates its use. I consider it is far better to give either sugar syrup or honey, and leave the bees to gather natural pollen if plentiful, and if not, a supply of pea-flour or wheaten-flour, given on the well-known and orthodox plan. This will start breeding, and prove more satisfactory than flour-candy.

Mr. Jordan asks (7042, page 114), "Do queens deposit eggs in queen-cells?" In reply, I answer "Yes." In 1882 I made a glass observatory-hive, and distinctly saw a queen insert her abdomen and deposit an egg in a queen-cell (in a good position for inspection). I kept the cell

under observation till it was capped over. I have many times since then found eggs in queen-cells, and have seen the queen on the same frame quite near the cell, evidently having just laid the egg in the cell.—W. Woodley, Beedon, Newbury.

DISEASES OF BEES.

[7052.] In deference to the expressed wish of the Editors (7014, page 83), I refrain from entering upon any further discussion of American and European foul brood in the columns of the Journal for the present. I cannot, however, refrain from expressing the opinion that it is a pity the Editors should apply the "closure" to this particular subject. The fact that two such able contributors as Mr. Crawshaw and Mr. Bullamore evince a marked desire to pursue the subject shows that it is of some interest to intelligent readers. If the rank and file are not at present interested in brood diseases, as the Editors seem to think, then it is time the subject was brought prominently before them and a lively interest awakened for their own benefit.

Replying to Mr. Bullamore (7037, page 106), I am strongly of opinion that all self-cures of supposed foul brood are really cases of the so-called black brood. Mr. Crawshaw's reference was to the different bacillus found in black brood and foul brood by American bacteriologists. Mr. Crawshaw also admits the impossibility of self-cure of foul brood (page 109), but I do not agree with him that bees will remove, or can remove, the dried-down scales of foul brood. I have never been able to get them to do so, excepting by the help of chemicals, and then they only partially remove them. The residuum of virulent foul brood may not resemble a scale, strictly speaking, but in the majority of cases would not the skin of the dead larva remain unbroken? Does not the dead body of the larva remain entire, unless something is thrust into it, until it becomes hardened like a drop of glue on the lower cell-wall? "Sediment" would describe the remains of black brood. Since the dried scale contains countless numbers of spores, it is contrary to common-sense to believe that its removal is not necessary to the disappearance of the disease. I think we may also regard the necessity of a susceptible condition in any colony as extremely doubtful. No innate power of resisting disease can be credited to the whole of the larvæ in any colony. Among the many thousands there would be strong and weak, but evidently all go to the wall alike. Once the spores invade the system death is certain, and if spores exist in the cells, how can they be kept out of the food in which the larva floats, and which it absorbs through the skin as well as by the mouth? This same absorption through the pores of the body may possibly be the one weak part, making resistance by the bee-larva to the spores of foul brood impossible. Evidently the larvæ of wasps are able to eat foul-brood germs, and digest them, too, without ill-effect. But with them all goes in at the mouth.

My reference to anthrax was to illustrate the necessity for the removal of the germs of disease; but in reply to Mr. Bullamore I would point out that no animal under the sun—not excepting man himself—is immune from its attack, should the spores gain an entry into the blood through a wound on the surface of the body, in the mouth, on the tongue, throat, or any part of the digestive organs.—G. W. Avery, Armathwaite, S.O., March 16.

[There is no desire on our part to "closure" discussion on the subject to which you refer; nor do we think the footnote on page 83 conveys anything that can be so construed. Our wish was (and still is) that bee-keepers should stick to the names long familiar to all in this country, and avoid such terms as "American" and "European" foul brood in print until such time as the eminent bacteriologists who are now busily investigating the matter have arrived at a satisfactory conclusion with regard to the nature of the bacteria that are present in the different brood-diseases of bees.—Eds.]

QUEEN-REARING.

[7053.] Your excerpts from M. Kramer's article in *Schweitzerische Bienenzeitung*, on page 111 of last week's B.B.J., are very suggestive, but admit of some pertinent questions on one or two points. Especially, to an English bee-keeper, does queen-rearing *late in the season* raise doubts as to the applicability of the method in this country. Successful queen-raising involves not only the production of queens, but their successful mating, and this second condition involves another—*i.e.*, suitable weather. We can quite see the feasibility of producing queens and of keeping up a supply of drones, but the weather, so late in the season as is implied, is not at the bee-keeper's command. Even in our summer queen-mating is often delayed for days, nay weeks, and after summer there must be far greater risk of failure. In the warm Swiss valleys there may be no such difficulty, and one can easily understand that liberal feeding of the bees just as the supply of nectar from the colder mountain slopes is failing may have exactly the effects indicated by M. Kramer. Better knowledge, however, of

the Swiss climate and flora is required than that of the ordinary Englishman before venturing on the transplanting of his method to this country.

The application of this method appears to be extremely limited, especially so as the drones and queens seem to be reared in the same hive. Nothing could be more prejudicial to the utility of queens and the vigour of their progeny than the close relationship with the drones, thus not accidentally occurring, but carefully provided for and assured. Indeed, I would recommend ordinary bee-keepers to send their nuclei, with virgin queens, to a friend at a distance whose stocks were known to be strong, healthy, and of the selected race for a few days. Singularly enough, on the same page, in a paragraph on laws of heredity from the *Leipziger Bienenzeitung*, we have the careful proviso for parents "not being blood relations." The bee-keeper who will take the trouble to exchange queens, or send and receive nuclei for the time needed for mating, with all the precautions that prudence and experience can suggest, may raise stocks as strong for work or resistance of disease as if he paid large sums for fancy strains, and at the same time he avoids the difficulties of queen-rearing which you refer to on page 120. This is said without any thought of disparagement of those skilled queen-raisers who have entered the market, and given to any bee-keeper for a few shillings good and select blood for introduction to his apiary. The call for new blood is imperative; the need of a new race is often problematical, and its introduction not an unmixed blessing.

Permit me to thank "D. M. M." for his seasonable article (just what some of your correspondents have lately asked for, words in season), and especially for two short paragraphs giving the rationale of necessary spring feeding and stimulative feeding. His whole article (page 113) would make an admirable leaflet for distribution.—S. JORDAN, Bristol, March 21.

LIGHT WANTED ON BEE-DISEASES.

[7054.] I notice that Mr. Crawshaw's request on page 78 of your issue for February 20 is repeated by Mr. Woodley on page 102, asking for more light from myself with regard to the disease which has affected the bees in my apiary with such disastrous results. First let me say I am a bee-keeper no longer, my last stock having died about a week ago. Mr. Crawshaw, in effect, asks if there is anything in common between this district and the Isle of Wight, and the surroundings of my apiary, to cause this disease. In reply I may observe that I am not the only sufferer. In May last year, when my own bees were dying, I received a message from a village lying due south from here, two miles away, asking me to come over, as a friend's bees were creeping upon the ground, and gathering together in the evening on stones or the leaves of vegetables to perish. In response to the request I went over, and found that my friend's bees were afflicted just as my own were. About a week later I got reliable information that an apiary of about thirty colonies belonging to another bee-keeper, situated four miles away south-west of this village, was dying wholesale. The bees of both these bee-keepers are now dead, excepting one stock belonging to the latter. These three cases started almost simultaneously, and I ask, Can anyone explain why these bees lying so far apart should be attacked at the same time? If there is anything in this locality that tends to cause this disease, why was it not started sooner? I have kept bees here for the past nine years, and have taken as high an average as 70 lb. of honey per hive in a single season. I therefore think we shall have to look elsewhere for the cause of this terrible bee-disease. I believe it to be no use thinking that pollen is the cause of it, for if this were so, why have my bees gathered it so often before with no bad effects? I took away every bit of pollen from one of my hives, but although the bees lingered longer than the others, they died! Pollen is, in my opinion, not the cause, but only the effect of the bacteria of the disease in some mysterious way causing the bees to eat far more of it than they would upon ordinary occasions. How the bees of the Isle of Wight became affected will doubtless remain a mystery, but I would like to make two suggestions as to how it has reached the mainland:—1. It may be possible that someone hereabouts has bought appliances or hives, or even bees, from the Isle of Wight. 2. Is it not possible for it to reach us in wax from the island? Doubtless many bee-keepers have been busy melting up all their combs into wax, and some of this wax has been made into foundation. It might possibly have come in this way. I do not think that it came to me in foundation, but surely there must have been cases of this disease in the season of 1906, otherwise how came it to break out in several places at once in the following summer? I leave these few rambling statements for your consideration, and sign as before—H. S., Herts.

NOTES FROM NORTH HERTS.

THE NOMENCLATURE OF DISEASE.

[7055.] The opening sentence of my notes on page 106 should have quoted Dr. White of America as the authority for the statement that European foul brood

is a new name for "black brood." Readers of the B.B.J. will find the matter discussed on page 41 of last year's volume.

There seems to be an objection to the new name in some quarters, but American blight originated in Europe, and "Russian influenza" is said to be known in Russia as "Chinese catarrh," so that it can scarcely be incorrect to give the name of "European foul brood" to a bee-disease that was first noticed in New York State. On page 108 Mr. Crawshaw inquires for a cheap "Dictionary of Scientific Terms." Such a work has already been compiled, but a companion volume of "Synonyms for Bee-keepers" will soon be a necessity if each investigator of bee-diseases invents new names for them.

The Isle of Wight Bee-disease.—If this trouble is due to infection I sincerely hope that Mr. Cooper's surmise (7049, page 118) may be correct, and that it will be possible to raise disease-proof stocks from the colonies that have survived. If the disease then gets to the mainland we shall know where to send for queens that will confer some degree of immunity on our own bees. Unfortunately we do not know the cause of the trouble, and although a micro-organism has been isolated from the diseased bees, its pathogenic properties, if any, are not known.

Has any systematic attempt been made to discover the presence of arsenic or copper in the stomach contents of the diseased bees? Some of the cases are remarkably like what one would expect to happen where the bees had access to a treacle solution containing Paris green or copper sulphate. The Board of Agriculture recommends these poisons for insect pests, lichens, charlock, potato disease, &c., so that it is quite possible that some is obtainable from March to October. The preference given by the bees to white clover would account for the lack of cases during the time that honey is being gathered from that source. The period of scarcity usually noticed between clover-bloom and lime-blossom would be particularly fatal. The sealed larvæ would not be affected, but the unsealed that were poisoned would be indistinguishable from chilled brood except by chemical examination. The occurrence of genuine "May disease" would render the matter more complicated. Although I should be chary of suggesting this as the only cause, it would account for many of the facts. The brood and the queen are fed with partly-digested food, so that they would be protected in much the same way as the Eastern potentate who experiments on his cup-tasters and dogs before eating and drinking. The susceptibility of swarms is a noticeable feature, and this seems to point to honey-gathering as a contributory cause. Last summer, in Newport, the bees had been working on some lime-trees in a garden, and were observed to have fallen to the pavement. They had gathered into bunches and crawled into holes for warmth, and unless these bees had been poisoned the disease must have advanced rapidly after they reached the lime-blossoms. Is it not possible that these trees had been sprayed for aphis?

I do not expect much good to arise from a miscellaneous distribution of bees among the islanders. Real good might result from the establishment of an experimental apiary where the disease was thoroughly and systematically studied until understood and conquered. The distribution of stocks could then be undertaken and the bee-keeping industry would again flourish. — Geo. W. Bullamore, Albury, Herts.

CARBOLIC ACID FOR BEE-KEEPERS.

[7056.] May I ask through the B.B.J. if any of your readers can tell me what is the difference between Calvert's No. 5 Carbolic Acid, which is generally used by bee-keepers, and the Carbolic Acid Liquefactum of the British Pharmacopœia, manufactured by J. Woolley, Sons, and Co., Manchester? I shall be grateful for an answer to this question, as we have a lot of the latter acid on hand.

Honey at Bazaars.—Some months ago we sent some jars of our honey to a bazaar in London for a charitable purpose. Since then we have received numerous orders from people who had seen it, and all we had left has been sold at a good price, while we are asked for more! Is there not a good outlet for some bee-keepers in that mode of making the quality of their honey known?—Bro. Columban, O.S.B., Buckfast, Devon.

IMPROVING BEE-PASTURAGE.

[7057.] It may interest readers of the B.B.J. to learn that as a result of a paper on the above subject given by myself before the January meeting of the Croydon and District B.K.A., and acting upon the suggestions made by the president, Mr. Alderman Lillico, and others, it was decided that the association should approach the public corporations and owners of estates with a view to induce them to plant a good proportion of melliferous trees and shrubs.

In carrying out the above resolution, and

as the result of two committee meetings, various suggestions made by well-known bee-keepers conversant with the subject were adopted, and a suitable list of melliferous trees and shrubs was compiled, and has been forwarded to the following public bodies:—Croydon Corporation, Croydon Rural District Council, Mitcham Common Conservators, London County Council, Crystal Palace Company, and the owners and developers of new estates. A further communication has been sent to the leading farmers of the district mentioning the fact that the richest honey-producing plants must of necessity be the most valuable for feeding purposes, and directing attention to the value of alsike clover as a milk and butter producer.

The following is the list of melliferous trees and shrubs recommended as suitable for a suburban district:—Almond tree, French honeysuckle (red), *Berberis aquifolium*, red willow, hawthorn (single), fruit trees, early-flowering lime, late-flowering lime, flowering currant, *Wegelia robusta*, *Syringa* (mock orange), *Veronica Andersonii*, jessamine, Portugal laurel, elderberry, laurestinus, tulip tree (*Liriodendron*). Melliferous plants:—Clovers, &c., crocus, hyacinth, borage, sainfoin, white clover, alsike clover, trifolium clover, *Melilotus alba* (melilot clover), Bokhara clover, *Limnanthes Douglasii*.

When it is borne in mind that the greatest proportion of the foliage near our towns and villages is of comparatively little value to the bee-keeper, it almost passes comprehension what a district would be like if it were planted with a suitable selection of successive melliferous trees and shrubs in proper proportions. Whatever may be the effect of this action, the Croydon B.K.A. will have the consciousness of having done their duty to their day and generation.—JOHN SILVER, Croydon Grove, Croydon, March 19.

We regret that owing to the pressure on our space through the report of the B.B.K.A. annual meeting we are compelled to hold over several important letters, &c., till next week.

ADULTERATION OF BEESWAX.

Various substances are used for adulterating beeswax, but we venture to say the illustration which we give below, by the courtesy of M. Emil Bondonneau, editor of *L'Apiculture Nouvelle*, shows a novel and ingenious form of sophistication.

The wax-cake, into which, as will be seen, eight large nails were introduced,

NOVEL ADULTERATION OF BEESWAX.

weighed just 1 lb. The nails had been driven into the centre, and molten wax poured on them to complete the cake. Probably in melting the wax used to cover up the nails got discoloured, for it was of a different shade from the bulk, and the purchaser's attention was thus naturally drawn to this fact. On forcing a knife into the interstice at the junction of the two waxes, the covering was wrenched off and the fraud exposed.

It is astonishing the amount of trouble dishonest people will take in cheating even in small matters.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of February, 1908, was £1,434.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Isle of Wight Bee-trouble (page 102).—Since reading Mr. Cooper's letter the conviction has been forced upon me that after all it would be better to let the despatch of bees to the island wait for a while. The matter appears to me in a much more serious light now than when I made my much-discussed suggestion that help should be given. For if there are only two or three stocks left alive, what prospect is there of salvation for the immigrants? This does not mean that I am unwilling to help in any sensible scheme, *but is there such a scheme afoot?* For there are no new remedial suggestions, and so far the only specific would seem to be inspection by the Board of Agriculture! If the stocks are to be experimented with, I would further suggest that such work be done at one station organised for the purpose. Then, if any encouraging data were obtained, we should be more justified in sending stocks to all and sundry. In any case, if the island is to be restocked, it would be well to rear queens for such stocks from those which have come safely through the epidemic, if there be any such. But the most sensible course at present is to let the island lie fallow until such time as Nature has worked her beneficent way with the disease itself, and meantime to lend her a helping hand with the infected matter.

Foul Brood (page 106).—I will try to answer Mr. Bullamore's question as to why I desire to re-name any disease if he will refer me to my suggestion to do so! He implied this once before on page 6, and I asked for particulars on page 27. He seems to have overlooked this. His conclusions with regard to the removal of the dried scale are quite faulty, and might easily mislead. Of course, if no brood is being reared in the diseased cells, the disease may be said to have "disappeared," but it has not "gone for good."

Tested Queens (page 107).—Here is the whole crux of the argument: Does a tested queen imply a queen of any particular race? Certainly not! What right has any one race to the exclusive use of the term "tested"? Can we not have queens of the German or Carniolan races tested for purity of mating? An Italian queen may certainly be a "tested queen," but a tested queen is not necessarily Italian. Mr. Bullamore will perhaps remember that whilst all asses are animals, all animals are not necessarily asses!

Touching Wood (7039, page 107).—If we may not boast because we are not yet out of the wood, it is at least a good place to boast in, seeing that the wood is so handy to our touch!

Eggs in Queen-cells (page 114).—From the position of the egg in the shell, the most reasonable conclusion, in the absence of evidence to the contrary, is that it has been placed there by the ovipositor of the queen. The varying age of the cells may also perhaps bear this out. "Swarthmore" gives an instance of a supersedure queen, accidentally confined with cell-starting bees, which straightway laid in thirty-two cups; and Doolittle says that the process of laying in a natural queen-cell has been actually witnessed by his assistant. There is, I believe, other evidence to that effect. Certainly it is not doubted in the case of some other hymenoptera, although it is indeed difficult to imagine the inducement which causes queen and workers to combine in this process as autumn approaches.

TRADE CATALOGUES RECEIVED.

That the bee-appliance making industry will soon be busily engaged in catering for the wants of eager customers is certain directly we have a week of continuous warmth, seeing that April, the first month of the year for busy work among the bees, is now at hand. It is therefore satisfactory to find that our leading makers are well to the fore and prepared to meet all demands without delay. We have before us well-got-up and excellent catalogues with illustrations and descriptions of everything a bee-man needs for immediate use, and a full supply of such items as will be wanted when the honey-season is in full swing.

We never tire of urging the importance of being prepared for emergencies, though it should go without saying when one considers how much may be lost by having to wait for goods not ready at hand.

Having said this much, we give names, &c., of those makers whose catalogues have been received, and will deal with others later as they arrive. There is no need for us to select any one list for special praise when so many are "excellent and all-sufficient." Well-known and reliable makers long known for good workmanship and materials are well to the fore, and their catalogues speak for themselves.

JAS. LEE AND SON, LTD. (*Head Office and Power Works: Martineau Road, Highbury, London, N.: Showroom: 10, Silver Street, High Holborn, W.C.; Bee-farm: Fulbourn, Cambs*), Inventors and Manufacturers of High-class Hives and Bee-goods of all kinds.—Catalogue, 44 pages, free by post on application.

E. H. TAYLOR (*Office and Works: Welwyn, Herts; London Depôt: C. A. Billing*

and Co., Museum Street, High Holborn, W.C.), Manufacturer of Bee-keepers' Supplies and Poultry Appliances.—Catalogue free on receipt of postcard.

W. P. MEADOWS (*Syston, near Leicester*), Manufacturer of Bee-appliances and Dairy Utensils.—Catalogue free on application.

R. STEELE (*Wormit, Dundee*).—Full line of Bee-keepers' Supplies, Poultry Houses, and Appliances of all kinds. 64-page catalogue free.

S. J. BALDWIN (*The Apiary, Bromley, Kent*), Manufacturer of Apiarian Appliances and Comb-foundation.—Catalogue free by post.

GUTHRIE BROS. (*Alloway, Ayrshire*).—Bees, Bee-appliances, Bee-flowers, and Utility Poultry. Honey and pollen producing plants and trees at wholesale prices.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

S. R. MAY (London, S.E.).—*Advertising Amenities.*—We have referred to the advertisement cutting you send from our pages, and might explain the cause of the advertiser not replying by saying that it is not at all uncommon for so many applications to be received as to cause advertisements to be withdrawn before the insertions paid for have expired. In your case, the advertisement appeared only once, and we must suppose that so many applications were made that many were ignored, like your own.

J. T. G. (Hathersage).—*Honey-plants.*—The two plants you name—*i.e.*, "Bokhara clover" and the "Chapman honey-plant"—are entirely different, and have no affinity whatever with each other. The former is one of the clovers (*Melilotus leucantha*), and grows to the height of 5 ft. Sown in April and May, it flowers from June to August.

J. C. (Beal).—The failure of your bees for some time past, after keeping them successfully five years ago, is plainly attributable to foul brood, which has evidently saturated your apiary. We fear there is no remedy but total destruction of such stocks as the combs sent came from. So infectious a disease as you are troubled with is bad enough to cope with by bee-keepers who practise the best methods of prevention or cure, but when nothing in this direction is done the case is of course almost hopeless. We regret to say this, but it is the simple truth.

CHARTER (Ipswich).—*Waterproof Paper for Hive-roofs.*—The best paper we know of for this purpose, and one that has been in use for many years past, is known as "Willesden" paper, to be had from the Willesden Paper Manufacturing Company, London.

A. H. (Bromsgrove).—Your letter reached us sealed up by the post office officials, and marked "Found open," the only contents being your note. The presumption, therefore, is that the piece of comb had disappeared.

A. O. GILES (Lewes).—*Proposed County Association for Sussex.*—We have received several similar communications to yours, and no doubt Mr. Edwards, whose letter appeared in our pages, will be glad to hear from all who are favourable to the movement.

Honey Samples.

NEWCASTLE (Northumberland).—Sample is from mixed sources. It is fairly good for table use, but below show-bench standard on the points of flavour, colour, and grain. Nor would it fare better if reliquefied for the "extracted" class.

Suspected Combs.

J. T. B. (Cheshire).—1. Comb sent contains chilled brood only. 2. Your other query was addressed to our monthly, the *Bee-keepers' Record*, and will appear in April issue. 3. We cannot undertake replies by post.

P. P. (Putney).—For diagnosing purposes we require a small piece of comb in which there are a few sealed cells containing dead larvæ. The tiny particles on point of "probes" sent do not assist us in forming an opinion of any value.

J. J. T. (Epworth).—Sample contains foul brood of old standing. We hope your bee-keeping friend was ignorant of the condition of the stock when sold, otherwise he is to be blamed, as the disease was plain to see long ago.

J. M. (Menstone, Leeds).—There is not the slightest trace of brood in comb, diseased or otherwise. One piece contains syrup (capped over), and has never been bred in at all; the other samples are of black, old comb, but entirely broodless. The probability is that the stock has been queenless for some time past, and the bees, being all old, have died a natural death. The syrup in combs is fit for bee-food.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

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Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, two Simmins' "Conqueror" Hives, with Brood Chamber and three Supers. Price 16s. each; new last year.—A. THORP, Sheffield-road, Glossop. f 4

MUST BE SOLD, offered at half catalogue prices, parts of "W. B. C." Hives, new and secondhand, equal about three Hives, wired Brood and Shallow Frames, "Weed" Foundation fixed in some, "W. B. C." Section Racks, thin Super "Weed" Foundation, and other appliances. List on application; £2 2s. the lot. Owner ordered to India.—CAPT. MACFARLAN, Holyland, Pembroke. f 6

CLOVER HONEY, finest quality, in 28 lb. tins, at 7d. per lb.; also medium-coloured Honey, in 28 lb. tins; also quantity good quality Beeswax for cash; samples 2d. each.—W. HUXLEY, Aldford, near Chester. f 7

BLACK LEGHORN EGGS, Worcester Poultry Farm strain, 2s. sitting, splendid layers, free grass run.—BOWDEN, Broomhill, Witley, Surrey. f 9

HEALTHY STOCKS, in straw Skeps, 1907 Queens, 12s. 6d., 13s. 6d.; Stocks, in Frame Hives, from 25s.; Painter's Lamp, as new, 10s. 6d., paraffin.—W. WOODS, Normandy, Guildford. f 2

WHAT OFFERS? Five strong healthy Stocks Bees.—C. CHANTLER, Eastwell Court, Ashford, Kent. f 5

FOR SALE, 1 cwt. of Dark Honey, guaranteed pure English, 40s. the cwt., tins free, and put on rail; sample 3d., post free.—WHITE, Newton Toney, near Salisbury. f 8

FOR SALE, six healthy Stocks, excellent workers and good tempered. Price 27s. 6d. each. Inspection invited.—J. E. BARNES, Braeside, Foxley-lane, Purley. f 3

FOR SALE six Stocks Bees, healthy, in nearly new Hives, on ten Standard Frames, 20s. each; also 20 good secondhand Hives, 6s. each, with Standard Frames and Rack.—HARRISON, Farm, Middleton, Pickering, Yorks. f 11

80 "W. B. C." SECTION FRAMES, made up, 9 strong Racks, 150 Sections, some starters, others partially built, 19 Section Racks, 120 Wood Dividers. Lot 36s.—G. FOSTER, Chilbolton, Stockbridge. f 10

FOR SALE, Swarm Catcher, equal new, cost 9s., sell 6s.; also Wax Extractor, in good condition, 2s.—L. WAKEFIELD, Blackmore Lodge, Bromsgrove. f 12

EXPERT, with large Apiary, requires gentlemanly youth as Pupil, eventual partnership if desired. No premium if help given. Board, 25s. per week.—"Z.," c/o "Bee Journal." e 47

2 CWT. GRANULATED HONEY, mixed source. Enquiries solicited.—HUDSON, Crane Hill, Ipswich. e 94

RED BASSANO AND AILSA CRAIG. TRIPOLI ONIONS, strong plants, 7d. 100, free.—THOMPSON, Apiary House, Gowdall, Snaith, Yorkshire. f 1

CLOVER HONEY, good quality. 1 lb. Screw-cap Jars, 77s. gross, 21s. ¼ gross; ½ lb. ditto, 45s. gross, 13s. ¼ gross; Honey, in bulk, 48s. cwt.; samples, carriage paid, 8d. — Further prices and particulars from TURNER BROS., Sandpit Poultry Farm, Croydon. e 86

BEES-WAX, guaranteed pure, 1 oz. tablets, 1s. 9d. lb., £8 17s. cwt.; in bulk, 1s. 6d. lb., £7 15s. cwt.; samples, 3d.—TURNER BROS., Sandpit Poultry Farm, Croydon. e 87

"CHAPMAN HONEY PLANT" SEED, 3d. and 6d. packets, post free.—W. WOODLEY, Beedon, Newbury. e 72

Special Prepaid Advertisements.—*Continued.*

WANTED, 1,000 Bee-keepers to try my Cottage Hive, with Frames and Sections, painted, 9s. 6d.; genuine "W. B. C.," with Frames and Sections, 15s.; above Hives without Frames and Sections, 6s. 6d. and 13s.; Section Racks, 1s. 3d.; with Dividers (metal), 1s. 9d.—SOUTHERN BEE-HIVE WORKS, Hellingly, Sussex. e 85

"ALNWICK" FEEDER, made of wood, zinc, and glass, best and cheapest for all seasons, rapid or stimulative. Price 6d.; postage of one costs 3d., two 4d., six 6d., dozen 10d.—J. BALMBRA, East Parade, Alnwick. e 44

SITUATION WANTED by Handy Man, assist gardener, understands Bees, Making Appliances.—SHORT, Hanley Castle, Worcester. e 48

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

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CHAPMAN HONEY PLANTS.—Extra Strong Plants, to blossom 1908, 12 3s., 6 1s. 9d., package free; Seed, 6d. and 1s.—JOHN P. PHILLIPS, Spetchley, Worcester. c 34

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APRIL 2, 1908.]

The British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR.

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

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Edited by T. W. COWAN, F.L.S., &c., and W. BROUGHTON CARR.

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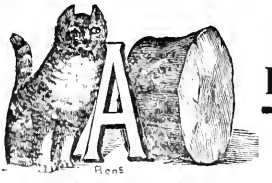
NEW  READY

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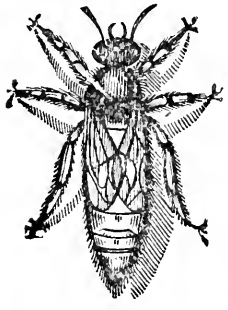

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

CONVERSAZIONE.

(*Continued from page* 124.)

Mr. Till said he wished to give expression to what he felt sure was passing in the minds of all present—namely, a feeling of thankfulness to Mr. Garcke for having given the Association the benefit of his laborious research with regard to statistics of the bee-industry; and, in connection with that subject, it would probably occur to many present that the cause had suffered a great loss since their last annual meeting. The late Mr. Weston, to whom he referred, was an able man—a host in himself. Before he (Mr. Weston) joined the council of the B.B.K.A. he was the first to make a census of the bee-keepers in his own county of Essex, and prosecute inquiries of the kind now formulated on a large scale in the paper they had just heard read. When Mr. Weston's death was announced it came as a severe blow to the hearts of all bee-keepers, who knew his sterling worth, and a feeling that his place could never be filled. However, they must not be pessimistic. When a nation has fallen so low that "there are none to lead her of all the sons she has brought forth," the blessing of God does not rest on that nation. He (Mr. Till) did not want to flatter Mr. Garcke, but he felt that gentleman's attendance that evening was a blessing conferred on the Association, and he did not doubt that the striking and comprehensive way in which the reader of the paper had dealt with his subject would result in great good to the cause of bee-keeping in the country. He had laid bare the present state of things, and shown how utterly inadequate the small sums received, not only by the county associations, but also by the B.B.K.A.—the income of the latter being only £125 per annum—were to carry out the aims and objects of apiculturists in this the heart of the greatest Empire in the world. The amount named seemed ridiculous, especially when compared with the funds subscribed to other societies. He quite agreed with Mr. Garcke that a consolidation of forces and distribution of effects were the desiderata. He knew the danger of change, but, at the same time, they had arrived at a critical period in the history of the associations, and measures must be taken to meet the crisis. If they did not rise to the occasion, they would be lost. As regarded the census, he believed Mr. Garcke had left out of consideration the details issued by the Irish Board of Agriculture. [Mr. Garcke intimated that he had excluded Ireland from his calculations.] In the agricultural census of Ireland not only were complete figures of the number of hives given, but also of the amount of honey produced. He wished it were possible to bring pressure to bear on the Board of Agriculture, so that figures might be obtained as regarded the bee-industry in England [Mr. Cowan interjected that it had been tried over and over again], but he supposed the procuring of these details would cost too much labour and expense. He hoped Mr. Garcke's remarks would initiate many valuable suggestions for the improvement of apiculture in the country.

The Chairman stated that he would like at this stage to call attention to the guarantee fund, of which the list was before him. If anyone would like to add his name thereto in connection with the Franco-British Exhibition, it would be welcomed. The guarantee was limited to £1 each, only a portion of which would be called up.

Mr. Reid said he would like to support the suggestion of Mr. Garcke that a meeting should be held to consider how best to advance the cause of apiculture at the present crisis; but that meeting should speak with the assent and assistance of everyone interested in bee-keeping. Mr. Garcke had explained the cause of the position they were in. The B.B.K.A. started with the policy of advocating local management. In every county it had endeavoured to found a local county association, and wherever that plan had succeeded it was certain that the bulk of the members belonging to that county would secede from the B.B.K.A. in favour of it; thus the mother was a loser in proportion to the family she produced. It followed that the more county associations were increased the more the parent body would lose members. They were propagating themselves by means of cutting off a piece of their body, and when the operation was complete there would be no parent left! There was one special suggestion, among others, in Mr. Garcke's paper that might be made use of, and that referred to education. He thought the Association had a claim on account of its teaching and the work it did. The object of the Association was to teach people to observe Nature with quite different from ordinary eyes, and to keep young people out of mischief by occupying their spare time. From that point of view, they had a right to ask the general public for their assistance, quite apart from the question of the number of bee-keepers, &c., as stated by Mr. Garcke. If the central body could make a spurt, and really strengthen the associations through central action, it would be good for the latter as well as for the parent Society.

Mr. Sander said the initial difficulty in

the way of additions to the ranks of subscribers was that every bee-keeper, before putting his hand in his pocket, wanted to know what he was going to get in return for his money. That was his experience in Kent; and if that sort of argument appealed to people who should support local associations, how much more would it tell as regarded the B.B.K.A. There was a considerable amount of *esprit de corps* among bee-keepers, who seemed always willing to help each other, but they rather hesitated when asked to pay a subscription unless a tangible immediate benefit was obvious therefrom. It was certain that without money nothing could be done to advance matters, and that was the obstacle in the way. He would very much like to promote meetings of bee-keepers, by which fresh ideas and knowledge could be obtained and ventilated, but that did not seem to enter the minds of his local friends, who appeared to think the advantage of the same was only problematic, and, in consequence, they would not become members.

Mr. Fall corroborated Mr. Sander's views.

Mr. J. B. Lamb endorsed what Mr. Garcke had said with regard to the advantages of consolidation. There was not at present a fixed rate of subscription, but that could easily be made, varying from 1s. to 5s. or 10s. The value of consolidation would be that there could be an efficient paid secretary at headquarters. The difficulty with county associations was to find the man to do the secretarial work—one who was willing to spend time and money in the cause. It was most disheartening at times trying to get members. The answer often was, as Mr. Sander said, "What am I going to get out of it?" He believed that the Kent B.K.A. could be resuscitated if a secretary could be found who would devote really hard work and time to that object. Until they could establish a strong central body, with funds and a well-paid secretary at headquarters, not much could be done to enlarge the scope of bee-keeping. But everybody could make use of the Press. All newspapers (especially local ones) were glad to obtain, free of charge, interesting matter, and in taking advantage of such opportunities something might be done to ventilate the subject of bee-keeping and stir up public opinion. If people, in their respective districts, would write readable and chatty articles, pointing out the value of bee-keeping, the country papers would be glad to insert them, and thus the cause of education would be promoted all over the country.

Colonel Walker thought consolidation entirely a question of money, and could not see how it was to be secured without help from the powers that be. In all other countries agriculture was of prime consideration and received Government support, even to the minor branch of bee-keeping. They must put pressure on the Government to give a little assistance. A day or two ago he was reading about the first association started in Devonshire, called the Western Apiarian Society. It was a kind of obituary by the energetic secretary. After fifteen years of existence it had died out because there was no one of sufficient energy and ability to replace him. That was only a type of what often happened—when the man who was the life and soul of the movement left, the association nearly always went to the bad. There was one slight consolation that after a time of quiescence the seed germinated and burst forth afresh in the form of a new association. That looked as though their cult would not die out altogether, and he did not think bee-keepers need be disheartened. If an association showed a big balance, people would not help it—at least, some County Councils would not. He thanked the reader of the paper for the great trouble he had taken, but counselled them to avoid pessimism.

Mr. Grimwood, speaking as a member of the Surrey County Association, which was a particularly strong and well-managed body, could not admit that the organisation of bee-keepers was bad. The trouble was as to whether the B.B.K.A. should be all parent or all child. At present one joined a county association, and obtained every advantage required, as was possible in Surrey, and, therefore, its members had not the slightest inducement to belong to the B.B.K.A., even if they had any knowledge of it; indeed, he (the speaker) could not see, if the interest of the individual were considered apart from that of the society, why a bee-keeper should join the parent body as well as his own local association. If every member of the latter became, *ipso facto*, a member of the B.B.K.A., all would be working with the same object in view; but whether that was practicable or not was a difficult question. It seemed to him that bee-keeping appealed to the poorer man rather than the rich, and if a trade-union could make a levy on its sub-societies, he saw no reason why the parent B.K.A. should not make a levy on its branches. Surrey was being handsomely assisted by its County Council, and he thought that was a point which ought to be made a great deal of in other counties. If the Board of Agriculture will not help, probably the County Councils will, and that is what every association should bear in mind. So long as the limbs are healthy the body is sure to be strong, and he believed the counties would be unselfish enough to come to the assistance of the parent body and ensure that it was put in a proper condition if there was any

danger. He thought it would be better for some change to take place by which the B.B.K.A. was no longer a separate and distinct association, so that the society might constitute one united whole. The proceedings might be evenly worked, although the organisation was in London. He would like to feel that everybody could attend whenever and wherever there was a meeting with the knowledge that he was part and parcel of the whole association. Some such scheme would, he believed, bear good fruit.

Mr. Bevan mentioned the fact that the Middlesex County Council gave £20 to the local association; thus they had some assistance in the way required. The London County Council gave money from time to time for educational work outside the county of London, and their work was nothing if not educational.

Mr. Pugh said that the present affiliation fee was anomalous in its working, because the same amount—namely, £1 1s.—was expected from each association, whatever its membership—whether twenty or thirty, or 500 or 600. He thought a *pro rata* fee would be justifiable as well as helpful to the B.B.K.A. Some of the most thriving associations derived a great deal of their present success from holding meetings in the winter, and so enabling their members to know each other. He recently had the pleasure of attending the meetings of three different county associations, where he found plenty of good fellowship, as well as a desire to learn and exchange ideas. The conference it was proposed to hold would, no doubt, be a stimulus to bee-keeping generally.

Mr. Silver agreed that one of the best means of success was the frequent meeting together of bee-keepers. They had found that out in Croydon. The Surrey Association was a large and unwieldy body, and, by its subsidy from the County Council, it was practically confined to a portion of the county. In Croydon they had found that the only way in which it would be possible to get proper benefit from any bee-keepers' association was to form one themselves. In pursuance thereof the society recently started was now in vigorous condition, and had nearly a hundred members. They held monthly meetings, when some subject was introduced for discussion and enlightenment. The last speaker had gone to the kernel of the question when he said that one of the greatest steps towards success would be to encourage the more frequent assembling of bee-keepers together. He thought the cause of failure in the case of some county associations was that they tried to cover too much ground, and were, in consequence, a little unwieldy.

(*Report continued next week.*)

Obituary.

MR. HENRY ALLEY.

We regret to have to announce the sudden death of Mr. Henry Alley, of Wenham, Mass., U.S.A. He was the well-known breeder of queens, and his methods were widely adopted until they were superseded by improvements. In 1883 he brought out "The Bee-keeper's Handy Book; or, Twenty Years' Experience in Queen-Rearing." In 1889 he compiled and published "The National Bee-keepers' Directory," which contained a classified list of bee-keepers in the United States and Canada, with "Practical Hints Regarding the Successful Management of the Apiary," occupying sixty-three pages of the work. In 1891 he produced a work entitled "Thirty Years Among the Bees," which contained his latest improvements in queen-rearing and the practical, every-day work of the apiary. For several years he edited the *American Apiculturist*, and latterly used it as an advertisement to push his business. He claimed to have produced pure Golden Carniolan bees, and the way he was said to have done it was described on page 523 of B.B.J. for 1891. Unfortunately, he could not stand criticism of his methods, and resorted to abuse of those who differed from him. This did not commend itself to his subscribers, and, as is usual in such cases, the paper collapsed in 1893 and was given up. Lately little was heard of him, but he will always be remembered as one of the old-time bee-keepers in America, who did his part towards improving queen-rearing.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

[7058.] *Stimulating with Combs of Honey.*—A good fat comb weighing from 6 lb. to 8 lb. is, in my opinion, the very best form of spring stimulation, and the manner of administering it is rather a minor matter. Scratch the face of the comb slightly to break the capping, thus giving the bees the scent of open honey-cells, and they will do all the rest. If weather is fine, the comb may be laid flat across the tops of the frames, with the bleeding honey gently percolating down over the cluster to such

an extent that the drip will make them clean it up under compulsion, and you have an automatic generator of active breeding. The bees, acting on the belief that a flow is on, stoke the queen, thus compelling her to start and keep on ovipositing. Almost as good is it to place the comb *below* frames where an eke reposes beneath the body-box. Their intercourse between the cluster and the entrance almost instantaneously reveals to them that a new source of riches can be tapped, and straightway they proceed to transfer the store to combs in close proximity to the brood-nest. Both these places are superior to the generally chosen spot—namely, the comb just outside the cluster—because it is more necessary to carry honey either from above or below, and consequently it means more stimulation. Placed alongside, they are more generally content to accept it as a matter of course, and not as a new supply. Whatever stirs them up acts as an incentive to new effort.

Embedding Wires.—Now that many are likely to be getting hives ready in anticipation of coming swarms, it may be appropriate to deal with this subject. Very frequently the work is done so badly that there is loss instead of gain in using full sheets wired on. This arises generally from defect in the process of embedding. At times the foundation is too hard and brittle, causing it to crack in handling; or it is too soft, and doubles up and assumes contorted forms. Much pressure to cause it to assume the flat form intensifies the evil, producing curves and undulations. Then when the wires are made taut, and the spur embedder or grooved rod is applied with force, the wires are sunk so deeply that they all but cut the sheet through. Frequently when lying by for some time the sheet tears away from the wires, and then, in nine cases out of ten, there is a collapse. Avoid too heavy a pressure on the embedder. Slightly heated, it generally runs the wax just so much that it covers the wire, and this is the best sign of success. Many run heated wax very lightly along the line of the wire, but this results in a bit of a daub. Some appliance that would work simultaneously with the embedder, applying a light, even stream, would be a serviceable appliance, and I think I have read somewhere of the existence of such an article. If, however, the sheets of wax are of the right consistency, neither too soft nor too hard, and the exact pressure only brought to bear on the embedder, one gets along after a little experience without mishap. Dealers should turn out all the side pieces of frames *ready pierced* to receive the wires. It would be a great boon to many an awkward handler of tools. Some kind philanthropist might take note.

"*Cappings of Comb.*"—Mr. Crawshaw's note (page 59) is, I think, right and, paradoxical as it may sound, *wrong*. Cappings in quantity on the floorboard would naturally result from granulated stores; but (here's the rub) outside observation would reveal the existence of this mishap *before* the internal heaps could be seen, because, in my experience, bees have an almost insane desire to evict every pellet as soon as it is tapped, and they work most industriously, even on an inclement day, to eject every particle. Why, I do not exactly know, for, should they only possess their little souls in patience, I feel almost certain these stores could be made available later on when dissolved in the water so liberally brought into the hive. But the fact is as I have stated. That heather-honey granulates so readily as Mr. Crawshaw implies on page 108 is certainly news to me. The death of his bees should not be attributed to the granulation of honey, but the latter result should be set down as a consequence of the former. Paucity of bees in a hive leads to this, let the honey be from what source it may, in severe zero weather such as we had in the late autumn.

Is not the criticism on "Generosity" (page 78) just a little superfinical? I venture to predict that of 2,241 readers, the 2,240 would disregard the ellipse, or entirely fail to see it, and only the odd *one* would perceive a fault after searching for it; so that the note, in my opinion, counts as "the thin edge of nothing whittled fine."

The words "sceptically derided" on page 87 should read "sceptically denied." There was no idea of derision in the mind of either writer or reader.

When to Re-queen.—This period varies under varying circumstances. My own preference would be any time during June or July. Nature aids us best during this time, at least in the rearing and mating of queens. Bees are more numerous during these months, and should the best of the period be selected, nuclei are more easily formed and prove successful with fewer bees. The spirit of cell-raising and queen-forming pervades the hive, and so Nature and art work best hand-in-hand. Then, too, failing queens are most easily detected, and their supersedure becomes a necessity. Many re-queen just before the heather-flow, but for several reasons I would not do so; neither would I disturb colonies, unless under necessity, during the time they are working at the heather. A young queen might force the pace, and compel an undue proportion of the bees to devote themselves to brood-rearing when the endeavour ought to be to secure surplus; and, too, these young bees mature just too late to be of very much, or any, use as foragers. Circumstances,

on the other hand, are favourable just at the close of the flow. Old queens cease ovipositing suddenly on the cessation of incoming nectar; young queens continue laying longer, and so bring the colony to the closing-down period richer in bees. At the same time the introduction of a young queen at this period may be a more difficult process. Should nuclei be on hand, however, all that is necessary is to quietly lift the comb with the queen and deposit it in the de-queening hive; gently close up, and the bees accept. If the young queen is temporarily caged, the deposition of the old queen may take place when she is liberated in about forty-eight hours.—D. M. M., Banff.

WHAT IS A TESTED QUEEN?

DR. C. C. MILLER'S VIEWS.

[7059.] The BRITISH BEE JOURNAL for February 20 is just to hand, and after reading with much interest what my good friend "D. M. M." says (page 72) as to tested queens, I may say to him that I am in almost entire accord with him in all he says.

After his showing up of the many kinds of bees in existence, I must confess that my answer is one-sided in that it recognises only Italians. And yet, friend "D. M. M.," for all the large number of names of other kinds, the number of bees other than Italians is comparatively small in this country, when you are talking about tested queens. So in the ordinary course, when a tested queen is mentioned, without specifying the race, a tested Italian queen is meant. But you have my promise herewith that hereafter I shall try to keep in mind other races, and modify my definition accordingly.

With this concession, which I am glad to make, let me assure you that the definition I gave is the one used in this country ever since the term "tested queen" has been in use. Mind you, I am not saying it is right to use the word "tested" in that way, nor disputing that a tested queen ought to be all you say; but when I am asked the meaning of a term, my business is to define it as commonly used. For a long time after Italians came in there were only Italians, blacks, and their crosses; so a tested queen referred always to an Italian queen. A breeder may sell a queen just as soon as she begins to lay, without knowing what will come from her eggs, and such a queen is called an untested queen. Three weeks or more later, if he finds all her worker progeny have three yellow bands, he sells her as a tested queen. He may know nothing about her quality or the quality of her spouse, if her worker progeny all show three yellow bands she is a tested (Italian) queen. You mention the absurdity of going by colour alone. Well, I have nothing to do with that, and I have no quarrel with you about it. I am only saying what "tested" means as commonly spoken here. And I will just whisper in your ear that I do not believe three bands are a sure proof of pure Italian blood, since nowadays bees have more than three bands, and I think with some black blood at that. However, I repeat, I am not talking about what "tested" ought to mean, but what it does mean in this country among bee-keepers.

In some way you seem to have a wrong impression as to the difference in prices between tested and untested queens. I have just been looking over prices in advertisements of last season to see the difference. Let me say, in passing, that I do not wonder from the advertisements that you think there are many Caucasians, Banats, &c.; but let me assure you that the number of advertisements of an unusual kind of bee is no correct index as to the number of colonies of that kind in the country.

Well, about the prices I found. You say, "Untested queens are offered from 1 dollar (down to 50 cents); tested queens are 5 dollars." I found the same as to untested queens, but tested queens $1.50 down to $1! In no case did I find tested more than $1.50. If a higher price was asked it was for "select tested" or for "breeders." So you see 50 cents, and not $3.50, is what one has to pay for the testing. Look the matter up for yourself, and see if there is anything wrong with my figures.

I thank you for explaining what you mean as to my inconsistency. As I understand you, it is my recommending pure Italians and at the same time keeping hybrids myself. It does look inconsistent. I do not think it is. If a man gets pure Italians, the hybrids will come of themselves. See? Then there is another explanation. From time to time, after I got Italians, I bought from year to year an imported queen, and yet there remained mixed blood. Then I began breeding from the best yielders, without regard to colour, and ran into stock mostly hybrid. My care in selection gave me hustlers. I doubt if I can find any pure stock to equal them, and I have held on to them under protest just because they give me so much honey, in spite of their bad tempers; but if I had it to do over again (and I am making some effort to do it over again) I should stick to pure stock—possibly pure blacks if I lived in England or Scotland.

Now, if you still see any inconsistency, point it out, and I will be ready to accept your apology. How I would like to talk it all out with you in person!—C. C. MILLER, Marengo, Ill., U.S.A.

NOTES FROM THE ISLE OF WIGHT.

[7060.] As a companion in tribulation, I offer my sincerest sympathy to "H. S., Herts" (7054, page 126), and also thank him for the additional "rays of light" he has shed on the outbreak there.

When public attention was first called to the disease here, a letter was inserted in the local Press imploring people not to send bees or anything that was likely to infect mainland bees out of the island—a warning that has since been often repeated—and, I believe, with the exception of the Board of Agriculture and a few queen-bees to Mr. W. Herrod, of Luton, nothing has been sent. We have had several applications from bee-keepers in different parts of the country for diseased bees and combs to experiment with, in some cases offering to pay for them. One gentleman was so persistent in his endeavour in that direction that we had to insert a letter in the Press warning people against him. So far as is known to me, such applicants were all "turned away empty." They could hardly have realised the grave danger they were seeking to put the whole bee-industry of the country into, to say nothing of the loss that might also result to hive and appliance makers, fruit-growers, &c. I should like to ask: Can the disease have started in Herts in the same way as it did here, and not by direct infection?

It cannot possibly be that an artificial poison is at the root of the trouble, because nothing of the sort is used to any extent here, except what is in common use in other parts of the country; while in some out-of-the-way apiaries there has not been anything of the sort used within a mile or so, yet they have died just as rapidly as others.

Almost everything under the sun, from mummy dust in artificial manure to motor dust, and from sea fogs to foul air, has been suggested as a possible cause; while many an old skeppist blames the new-fangled frame-hive as the sole cause of misfortune. Whatever it may be, his skeps have suffered quite as severely as our more modern "skyscraper." Can any reader who is a botanist tell us if it is within the region of possibility for some form of disease to attack flowers of various species, and impart some poisonous quality to the pollen or nectar that would be fatal to bee-life if partaken of in large quantities, as, for instance, when on the point of swarming? Mr. Bullamore (page 127) and Mr. Crawshaw (page 129) both suggest the setting up of an experimental apiary. The advisability of that course was pointed out to the Board of Agriculture last summer, but they did not act upon it.

It is interesting to learn that three stocks brought eighteen months ago from Warwickshire to Freshwater, I.O.W., are still alive and well, and gave a good surplus last year. There are also three lots of driven bees, sent over last autumn, which have not contracted the disease, and are now busily engaged in pollen-gathering. A swarm from Hampshire in June, 1906, is still doing well. Let us hope that these cases are harbingers of better days to come, when bee-keeping shall once more prosper in the Garden Isle.—H. M. Cooper, Lee Farm, Thorley, I.O.W., March 27.

THE I.O.W. BEE-DISEASE IN HERTS.

[7061.] I had the opportunity quite recently of having an interview with one of the bee-keepers referred to by your correspondent "H. S., Herts," in the B.B.J. of March 26 (7054, page 126), who is probably the greatest sufferer from the disease affecting parts of Herts and Bucks. The subject has been freely discussed of late in your pages, and we learn that the gentleman first mentioned was not long ago the owner of an apiary of about thirty stocks, the whole of which are now dead. In discussing his loss reference was made to the fact that another but smaller apiary in which he was interested, located about four miles distant from his own place, had entirely escaped. This statement induced me to ask: "Did the bees throughout the affected district store any surplus *honey?*" The reply was: "No, none, the small quantity collected being honey-dew (save the mark!), black and also thin." I also learnt that not only the small apiary mentioned above, but several others in the same district, entirely escaped the disease, and in each case the surroundings were sufficiently good to enable the bees to produce a surplus of *honey*.

These facts are to my mind sufficient proof that the first cause is improper food, and a long continuance of such food gives the bees no chance to recover, the disease in its very early stages and to the end being symptomatic of dysentery. As an interesting, and maybe instructive, episode in my early bee-keeping days, approaching forty years ago, I might mention one of my stocks, in a "Woodbury" hive, was in the month of February suffering from an acute attack of dysentery. As a lover of bees this was grievous to me, and, being at a loss for the moment to decide what remedy to adopt, I eventually placed a small lamp underneath the floorboard to warm the interior of the hive, and at the same time I gave a supply of warm, thick syrup, more dense than Mr. Woodbury's recipe in those days, which was 3 lb. of sugar to 2 lb. of

water, with the usual proportion of salt and vinegar. The stock in the previous autumn was very strong, but the attack of dysentery caused the death of more than half the bees. The remedy proved efficacious, and during the ensuing summer the stock so treated proved one of my best out of some two dozen colonies.—JAMES LEE, The Apiary, Fulbourn, Cambs.

P.S.—Mr. Stevens, of Latimer, Chesham, Bucks, an old and valued bee-keeping friend, with an experience of twenty-two years, is the gentleman referred to above.

TWISTED FRAMES IN HIVES.

A SIMPLE REMEDY.

[7062.] Having read with great interest the letters in the B.B.J. on twisted frames and frames not hanging straight, I venture to send a line for your pages to say that I got over the trouble to a great extent a few years ago by

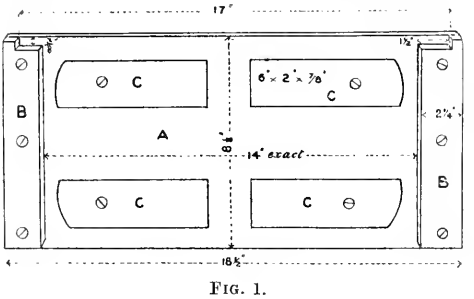

FIG. 1.

building-up the frames on the simple "block" or "gig" principle, particulars of which are sent herewith. I found that frames nailed together without any guide were invariably seen to be "twisted" when held up so as to get a look along them from below; so I devised the following:—For the base (A, Fig. 1) procure a piece

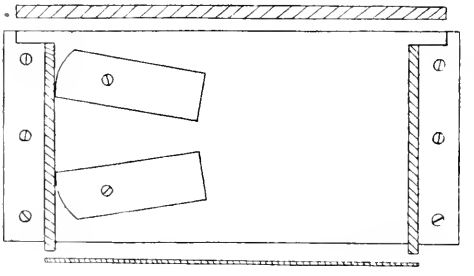

FIG. 2.

of well-seasoned yellow pine 18½ in. long by 8⅛ in. broad and ¾ in. thick. Plane this up perfectly level, and "squint" the eye along to see that one corner does not stand up above the rest of board. Next, procure two pieces of wood (B) each 8⅛ in. long by 2¼ in. broad and ⅞ in. thick; dress these up nice and perfectly square, and then cut out the portion D exact to size; then screw the pieces to the board A exactly 14 in. apart. Next make the wedges C to tighten up the frame as in Fig. 2, which shows frame in course of construction. The screws in C should work free in the holes so that the wedges can move. Be careful to press sides of frame well on to the board before tightening-up the wedges. This completes the contrivance.

I might add that the past season in this district has been the worst experienced by bee-keepers for many a long year, and those who did not feed continuously lost some of their stocks. We are lucky in having two sources of honey—viz., clover and heather—but the disastrous weather caused both to be failures. Stocks are getting short of food, and a cake of soft candy at the present time will save many stocks from starvation. Wishing all bee-keepers better luck for 1908.—W. S. W., Southview, Wolsingham, co. Durham.

BEES IN THE ISLE OF MAN.

[7063.] I am pleased to report thirteen of my stocks as having wintered well and being all fairly strong. They have been wintered on natural stores, supers of honey left on the hives when packing down at the end of August last, and until last week—when each stock was examined—they had been left undisturbed all winter.

I find this system works very well, and intend to follow it, as it does away with all the trouble connected with feeding, at least until April or May. If I find any stocks short now, I give a frame of honey, and this can be done in a few seconds. I always keep over from summer at least a dozen of my heaviest frames, both shallow and standard, for this purpose, and it well repays me.

We have had some splendid bee-days lately, and the bees have taken full advantage of them. I counted seven stocks taking in pollen last week, and hope this is a good augury for the coming season.—J. J. MOUGHTON, Laxey, I.O.M.

HEATHER-HONEY AND DYSENTERY.

[7064.] I observe that your esteemed correspondent Mr. Crawshaw has again returned to the charge on the question of "Heather-honey and Dysentery." I therefore venture to give my experience of wintering on heather-honey. At the same time I would invite our hon. secretary, Mr. Avery, to give us his views on this subject. I think it is most important that such views should be either proved or refuted, as, when given under

the authority of a name so well known as Mr. Crawshaw's, they might hinder timid bee-keepers going to the heather.

I have for the last twelve years taken my bees to the heather regularly, with the exception of last year, which was too wild and wet during August to move the bees, and have only once missed getting the brood-nests well filled with heather-honey. Usually I have had to take some frames away for the use of stocks left at home. Nor have I ever had a single stock die out during the winter that had been to the heather; in fact, we expect such stocks to be our best and most vigorous in the spring. Mr. Crawshaw speaks of heather-honey granulating quickly. Well, I have never known heather-honey that was *well sealed* granulate under one year's storage. I have sections in my possession at the present time that were gathered in August, 1906, and they are not granulated.

I usually uncap a good deal of heather frames in the spring, and where they have been sealed I do not remember finding any that was granulated. My honey is gathered at an altitude of from 1,000 ft. to 2,000 ft. I send name for reference.—CUMBRIAN, Cockermouth.

"A BEE IN A BONNET."

SIX MONTHS' HIBERNATING.

[7065.] The following might be of interest to readers of the B.B.J.: In the month of February last my sister had occasion to look out a summer hat, which was worn last year, and put by at the end of the season. Inside the hat she found a bee, which she supposed was dead, but, by mere chance, held it for a moment or two before the fire, when, to her great surprise, it instantly got into a vigorous state of activity. Now it is evident that this English worker-bee had been hibernating there for five or six months previously. — D. HUNTER, Craighead, Abington, N.B., March 18.

A SWARM IN MARCH.

[7066.] I enclose a cutting from one of our local weeklies, the perusal of which almost causes one to turn the proverbial "green with envy." It reads as follows:—"Mr. Wood, gardener to the Rector of Thorley, Herts, has this week hived a swarm of bees. May is the usual swarming month." One is tempted to suggest to those gentlemen who are so kindly agitating themselves over the unfortunate Isle of Wight trouble that they immediately secure the sole rights in this queen and her progeny! Surely a strain that shows such abnormal prolificacy as this should have vigour and vitality to resist any and all disease-promoting conditions. What would friend Bullamore say? If Thorley is in "North Herts," where the interesting "notes" come from, perhaps he will tell us if the reverend gentleman's gardener would be likely to have left the swarm over from last year, or whether it is the Editor of our paper who is guilty of perpetrating a shocker!—T. A. R., Northampton, March 29.

BEES AS FERTILISERS.

[7067.] Your correspondent Mr. Jordan, in B.B.J. of March 19 (page 116), asks for information on the fertilisation of flowers by bees. May I suggest that he and others interested in this subject should read Lord Avebury's "British Wild Flowers in relation to Insects"?

By the way, a short time since I noticed that a correspondent referred in the B.B.J. to the attraction *Centaurea* has for queen-wasps. Last spring I was astonished to see how irresistible the blossoms of the figwort (*Scrophularia nodosa*) are to them. On fine days I hardly had time to catch one queen-wasp before the next appeared on my patch of figworts. It would be more useful, however, if it blossomed earlier.—JOHN P. PHILLIPS, Spetchley, Worcester, March 25.

LANTERN-SLIDES.

FERTILISATION OF FLOWERS BY BEES.

[7068.] In Mr. Jordan's letter (7042, page 114) in your issue of March 19, he expresses a doubt whether a good set of lantern-slides on bees and the fertilisation of flowers is in existence. May I be allowed to say that among my collection are many slides, photographed from Nature, illustrating this interesting subject, taken by myself? Several of them are unique, as showing the act of fertilisation and its results in both seeds and fruit.

I may also add a line to say that my collection (numbering over 600 slides) is believed to be the most complete in Great Britain on apiculture, most of them being Nature photographs.—W. HERROD, F.E.S., The "W.B.C." Apiary, Luton.

WIRING FRAMES.

"GROSE'S DEVICE."

[7069.] With reference to this method of wiring shown on page 97, I may say that I have for the last nine years wired my broad-shouldered frames in practically the same way as described by your correspondent "Cornish Bee-keeper," but with the following variation: After threading the wire through each of the holes, I pass it to the opposite side of foundation. When the two ends are pulled tight with a pair of pliers, and twisted three or four

times, the foundation is held as in a vice. With this method I have never noticed any cells out of action for brood-rearing, as suggested by Mr. L. S. Crawshaw (page 109), nor have I ever had a breakdown of comb during transit to or from the moors, a rough journey of seven miles with twelve to fourteen hives.—CARBON, co. Durham.

P.S.—Kindly say if enclosed sample of sugar is suitable for making bee-syrup. Am glad to say the inmates of my fourteen hives have all "turned out smiling" after their fortnight under a snowdrift.

[If sugar sent is guaranteed pure cane, it will be quite suitable for bee-food, though it bears the appearance of "sweepings," and would need "skimming" while boiling to remove the débris before being given to the bees.—EDS.]

Queries and Replies.

[3676.] *A Beginner's Queries.*—Will you kindly reply to the following queries in the B.B.J.? I bought a hive last year stocked with bees, and find that the frames are built into each other in twos or threes. I suppose this has been caused by a breakdown in hot weather. 1. Can you advise me how to put the combs right? 2. How can I ascertain who is the secretary of the county B.K.A. for my district of Somerset? 3. Can you tell me what shows are to be held this year in which a lecturer with bee-tent will be in attendance, also honey and appliances exhibited, in Somerset or Dorset? 4. If I do not go in for artificial or nucleus swarming, and am away from home all day, how can I make sure of not losing bees by swarming? I intend to buy swarm-catchers, but do not object to increasing the number of my colonies. I send name for reference, and will be glad of replies in B.B.J.—BEGINNER, Somerset.

REPLY.—1. The work involved in putting combs straight is quite beyond the power of a beginner with bees, and it would be courting disaster to undertake it. Our advice under the circumstances, therefore, is that you obtain a copy of the "Guide Book" (new edition), and adopt the plan of allowing the bees to transfer themselves to a new hive and store surplus in the old one, which latter can be removed when full of honey, and its contents extracted. Full instructions for carrying out this plan will be found under the heading of "Transferring," pages 149 to 151 of "Guide Book." 2. and 3. Mr. L. E. Snelgrove, hon. secretary of the Somerset B.K.A., Weston-super-Mare, will supply all information with regard to district secretaries, shows, &c., if written to. 4. You will only be building up trouble for yourself by using swarm-catchers in preference to the first-named methods of preventing loss of swarms. As a matter of fact, it needs experience to manage swarm-catchers successfully—the thing a beginner entirely lacks. To sum up the questions put, we advise your joining the county association, one of whose experts would no doubt give you the benefit of his advice on the spot.

[3677.] *Sheep Pasturing near Hives.*—I will be glad if you can tell me:—1. If sheep grazing near an apiary run any risk of being stung? 2. Are there any cases on record of sheep having been injured through being stung by bees? I have read of horses, donkeys, dogs, and cattle being stung so severely as sometimes to cause death, but have never heard of any injury to sheep, while some even advocate their presence in an apiary to keep down the long grass. Name sent for reference. —SHEEP AND BEES, Croydon, March 21.

REPLY.—Without having any special data on which to form an opinion, we do not think that sheep browsing near bee-hives will run any appreciable risk from bee-stings, because of natural protection afforded to the body by the wool. The head is the only part a bee-sting could reach, and a sheep would scamper off at the first sting and be out of reach of more. The real danger would, we think, arise from the sheep knocking the hives over, and one knows what that means! Perhaps some readers can add a line of personal experience—which we lack—on the subject.

[3678.] *Bees and Heather-honey.*—Having looked up such numbers of the B.B.J. as I possess, and also consulted the "Guide Book," I can find nothing to help me in the following case: In August last I took a stock of bees to the moors, and although nothing was stored in supers, the brood-chamber was completely blocked with honey, every one of the nine frames being full. I wintered the bees on eight frames, and on examining the stock lately I found a good deal of sealed honey, but nearly all the unsealed cells contained honey that had granulated, leaving no room whatever for breeding purposes. The bees seem to have lived on the liquid honey in the cells, and then uncapped others as required. They now only cover about four frames, and as this is the only stock I have, your opinion as to what is best to do in the circumstances named will be valued. There is absolutely no brood whatever in the hive, but the queen was there all right. I may say the bees have been carrying pollen in freely whenever a fine day occurred. I inserted the emptiest comb I could find in the centre of the cluster. Did I do right, and is there anything I can do to push forward breeding, as I wish to divide this stock

as per "Guide Book," and make an artificial swarm as soon as the bees are strong enough?—ALFRED HILL, Chorley.

REPLY.—You had better uncap some of the sealed honey at once, in order that the bees may not suffer from want of food. The fact of pollen being carried in shows that it only needs stimulative feeding and cell-room for egg-laying to start the queen in brood-rearing. It will, however, be needful to get some new combs worked out before much progress can be made in building-up the stock. A few frames of foundation will therefore be needed to accomplish this, and should be given one at a time—in the centre of the cluster—as soon as the bees are strong enough to draw out the foundation. Do not, however, be in too great a hurry to divide the stock for increase, or you may retard the object sought instead of hastening it.

[3679.] *Reliquefying Honey — The "Bee-keepers' Guide Book."*—I was sorry to read your reply to a correspondent a week or two ago that frames of granulated honey (some of which I possess) could not be liquefied. Would you kindly say: 1. What would be the best thing to do with them? 2. I also ask if the new edition of the "Guide Book" is any considerable improvement on the one I bought in 1886?

I have been a bee-keeper for twenty-two years, though not a very successful one, yet no one is a keener lover of the craft than myself notwithstanding. I bought at that time the "Bee-keepers' Guide Book" (1886 edition), and have also taken the B.B.J. for years, and find it the pleasantest little paper that comes into my house. I have also lately got Mr. Cowan's work on the "Honey Bee," which I like very well indeed.—H. JACKSON, co Durham.

REPLY.—1. We know of no better way of dealing with combs of granulated honey than slicing them up into an earthenware jar, and immersing the latter in a large iron pan or boiler. The combs must then stand on a gas-stove or near the fire until such time as the combs and honey are thoroughly melted; then allowed to cool, when the wax can be lifted off the top in a solid cake. 2. The "Guide Book" you now have (published in 1886) was the eighth edition of the work, since which time it has reached its nineteenth edition, with a total circulation of sixty-nine thousand. Moreover, so great has been the demand for the work that it was deemed necessary to increase the latest edition to 19,000 copies (no previous issue having exceeded 5,000). The new edition published less than nine months ago underwent a complete revision; in fact, the book was almost re-written and greatly enlarged, while the fine half-tone blocks from photos were all re-engraved and many new ones added. It is less than nine months since the new edition appeared, and the sales have exceeded all expectations, making clear the fact that no other book of its kind on bees and bee-keeping comes anywhere near it in popularity.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

HORNET (Hinckley). — *Bees Dying in Winter.*—1. The dead bees sent afford no clue to cause of death. It would, however, not surprise any experienced bee-keeper to find a stock of bees dead from want of food with half-filled jars of honey on top of frames. In other words, bees should be fed in the early autumn while they are active and able to store the food given in their combs and seal it over for use as required. Bees cannot move about searching for food in the winter months, but will sometimes die of famine with food only a few inches away. 2. There is no need to burn frames if the hive is free from disease, and your letter gives us no means of judging on this point.

S. R. M. (Forest Hill).—*"Apifuge" for Bee-stings.*—We have never heard any further claim made for this preventive than that it takes away the desire of bees to sting the part on which the insect alights. We cannot, therefore, aid you much in answering your friend when he asks: "Do the bees like the liquid, or its smell, or are they frightened of it?" As a matter of fact, we never used a sting-preventive of any kind in our bee-manipulations, and in consequence cannot claim to be an authority on the question.

(MRS.) A. M. W. (Ellesmere).—*Queen Killed and Cast Out in March.*—1. The appearance of dead queen shows a clear case of "balling." The queen is fertile and small, but not abnormally so for the season. We are led to ask if the hive has been examined this season. If so, it may account for the "balling." 2. We do not advise you to incur cost of procuring a queen for the colony in question, unless the bees are now sufficiently strong to warrant the outlay, to say nothing of the risk of safe introduction under the special circumstances.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

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FOR SALE, six Stocks Bees, healthy, in nearly new Hives, on ten Standard Frames, 20s. each; also 20 good secondhand Hives, 6s. each, with Standard Frames and Rack.—HARRISON, Farm, Middleton, Pickering, Yorks. f 11

CLOVER HONEY, good quality, 1 lb. Screw-cap Jars, 77s. gross, 21s. ¼ gross; ½ lb. ditto, 45s. gross, 13s. ¼ gross; Honey, in bulk, 48s. cwt.; samples, carriage paid, 8d. — Further prices and particulars from TURNER BROS., Sandpit Poultry Farm, Croydon. e 86

BEES-WAX, guaranteed pure, 1 oz. tablets, 1s. 9d. lb., £8 17s. cwt.; in bulk, 1s. 6d. lb., £7 15s. cwt.; samples, 3d.—TURNER BROS., Sandpit Poultry Farm. Croydon. e 87

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BLACK LEGHORN EGGS, Worcester Poultry Farm strain, 2s. sitting, splendid layers, free grass run.—BOWDEN, Broomhill, Witley, Surrey. f 9

"CHAPMAN HONEY PLANT" SEED, 3d. and 6d. packets, post free.—W. WOODLEY, Beedon, Newbury. e 72

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"CHAPMAN HONEY PLANTS."—Extra Strong Plants, to blossom 1908, 12 3s., 6 1s. 9d., package free; Seed, 6d. and 1s.—JOHN P. PHILLIPS, Spetchley, Worcester. c 34

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APRIL 9, 1908.]

The British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR.

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

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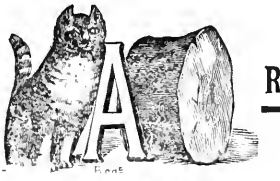
NEW  READY

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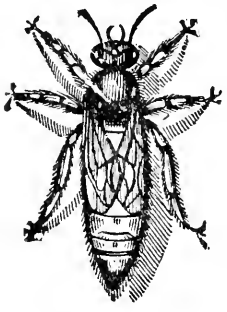

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION CONVERSAZIONE.

(*Continued from page* 133.)

In summing up the discussion the Chairman said that one or two speakers had asked, "What benefit did members of the county associations receive by belonging to the B.B.K.A.?" the general question being, "What good will it do me if I subscribe to its funds?" The answer to that was that the present status of bee-keeping in this country was entirely due to the efforts of the parent Association, and no other body. It was a long time for him (the Chairman) to go back, but he remembered the years 1860 to 1870, when bee-keeping was at a very low ebb in this country. There were then only a few bee-keepers working with frame-hives, there was no journal for bee-keepers, and the few persons interested (himself among them) were compelled to go to such papers as the *English Mechanic* or the *Journal of Horticulture* for any information on the subject. That was all that was known about bee-keeping in those days. A few years later (in 1873) Mr. C. N. Abbott started the BRITISH BEE JOURNAL as a monthly paper with a subscription of 10s. 6d. per annum.

The year after the JOURNAL appeared the B.B.K.A. was founded with a view of bettering the condition of cottagers and agricultural labourers by teaching them how to keep bees on the modern system. He claimed that there was abundant evidence to testify that these efforts had not been in vain. It was well known that very few bee-keepers used old-fashioned skeps nowadays; but at the period he referred to one would have to go a long way to find a frame-hive in use; and he believed this reform to be due entirely to the B.B.K.A. The parent body started on a proper basis by endeavouring to get as many cottagers as possible to keep a few hives. The desire was to benefit a large number of people by showing them a way to increase their incomes in their spare time by means of a healthful, pleasant, and instructive occupation. If the Association had advocated bee-keeping on an extensive scale, as carried on in America, colonies of bees would have no doubt been kept in greater numbers in fewer places, instead of a few hives being located in a large number of places, which was the desideratum. This country was not adapted for bee-keeping on a large scale; there were too many cottagers living in small districts who kept bees to permit of that. In the county of Kent, where a census of bee-keepers had been obtained, a good number of hives were kept in every village and town. On the other hand, American bee-keepers would be found owning enormous apiaries containing several hundred hives, because the proportionate area of the honey districts not occupied was far greater than here. The same plan could not possibly be adopted in this country, the population being too dense; not only so, but the greater the number of hives the less would be the proportionate amount of honey produced per hive, so that, speaking generally, twenty hives would yield no more honey than ten when only the same limited area was at the disposal of each. The Association was therefore quite right in getting as many bee-keepers as possible, each working on a small scale. With regard to subscriptions he thought the B.B.K.A. made a mistake in starting with a small subscription. They ought to have made the amount 10s. or £1, instead of 5s. If they had done that, the membership would have probably increased, as in the case of the Royal Horticultural Society, where the qualification was £1; but the mistake was made at the start, and they could now only regret it. Referring to the question of raising more funds, the idea had been suggested of taxing the different county associations *pro rata*, and he thought it a very good one if the affiliated societies would see the justice of it and agree to adopt the suggestion. No doubt such county associations as had a small number of subscribers would fall in with it, while it was possible that the larger ones, with a membership of 500 or 600, might object to the *pro rata* principle. But it should be borne in mind that the parent Association had done more for the cause than he had already pointed out. All the examinations for experts' certificates had been conducted by them, and many are now earning money in consequence. Not only so, but the monetary assistance the county associations were obtaining from the County Councils was entirely due to the central Association, which was the first to recommend to them how to proceed in order to secure grants in aid of bee-keeping. It was also through the agency of the B.B.K.A. that they came in touch with the County Councils, so that, whichever way one looked at it, the county associations were reaping the benefit of the work of the parent Association. Moreover, the County Councils would never have recognised the affiliated branches if it had not been for the central body. It was the latter who first addressed them on the question of foul brood, and, later on, while this matter was being dealt with, each County Council sent a delegate to

a joint meeting of the County Councils Association and the B.B.K.A. held afterwards to consider this question. It is certain that so important a body as the County Councils Association would not have sent delegates to meet twenty or thirty different bee-keepers' associations all working independently, and without any head to represent the general interest of bee-keeping. The Government looked to the B.B.K.A. for advice and information on the subject. Maybe they would be surprised to hear that he (the Chairman) had spent a great part of that morning at the Board of Agriculture in consultation about diseases of bees and how best to advance bee-keeping in this country. If a score or more associations were pulling at the Board of Agriculture nothing would be done, but when a central body representing the whole took up the matter it was different. One of the subjects referred to at the Board that morning was in respect to the Departmental Commission to inquire into technical education regarding agriculture; and in connection with this it would be remembered that last summer Mr. Reid and himself were invited to give evidence before the Commission. They did so, and from the questions asked it was quite clear that that body took a special interest in bee-keeping. In a long interview with one of the Secretaries that morning he was told that they had not yet reached the Bee-keeping Report, which could not be issued till May. This tended to show that the subject was not being brushed aside, but received its due weight in Government circles, and that, in consequence, the B.B.K.A. was doing some good. Then with regard to the county B.K. Associations being represented at the meetings of the B.B.K.A. held in London monthly, this was already provided for; they were empowered to send delegates, and the Council were always glad to welcome representatives of affiliated associations, for by the interchange of thoughts and ideas much good could be done tending to the advancement of the bee-industry, and would also assist in arriving at a better understanding of what it was desirable to place before the Board of Agriculture or any other central authority. Personally, he would be very glad if a special conference of county representatives could be called together to discuss the important questions that had been raised by Mr. Garcke, and see whether the financial strength of the central Association could not be increased in some way or other to enable it to extend its usefulness, to the mutual advantage of all concerned. Mention had been made of the numerical weakness of some county associations compared with others, but all could not expect to have so large a membership as Surrey. Each county had more or less different pasturage. Mr. Garcke had named some that were not suitable for bee-keeping. Somerset, for instance, being chiefly grazing land, was quite different from Surrey, where mixed agriculture was carried on; and under such differing conditions membership must be unequal in point of numbers. The Somerset County Association had adopted a plan of having district societies. Each local secretary was responsible for his district. The members met periodically to discuss matters of interest to bee-keepers, and this promoted an increase of membership. He (the Chairman) was present at a district meeting recently held at Taunton, and before the proceedings closed they were able to add twelve new members to the society. The matter of finances was arranged thus: The district received half the amount collected—that is to say, supposing there were ten members, subscribing 5s. each, the district would take half the total sum, the other half going to the parent society. As to bee-keeping statistics, the B.B.K.A. had done its best on several occasions to induce the Board of Agriculture to obtain them officially, but, owing to certain difficulties standing in the way, they had not succeeded so far. Mention had been made of the Irish statistics, but he understood they were not reliable, and the figures given did not represent with anything like accuracy the number of bee-keepers in the Sister Isle. The fact that the honey imports last year amounted to £31,000 showed that bee-keeping could be increased in the British Isles, although the amount quoted was somewhat lower than usual of late years, for it had been at one time from £40,000 to £50,000. The lower figures, however, showed that more could be done at home to supply the demand for honey. Complaints had been made by a few that by increasing the number of bee-keepers we made it impossible to sell the produce; but experience showed that those who produced good honey and put it up well could sell it readily, and even create a demand for it. Having said this much, and as there were hives and appliances to examine, he would, in thanking Mr. Garcke, ask him kindly to close the debate.

Mr. Garcke said, in view of the Chairman's remarks, he would not detain the company more than two or three minutes just to express the satisfaction he felt that his humble efforts to raise a discussion on the important question of how to advance bee-keeping in this country had been successful. The debate had been a most interesting one, and he felt exceedingly grateful to Mr. Cowan and the other speakers for the light they had thrown on various points in connection with the subject. It was perfectly evident

to him that Mr. Cowan's statement that the central Association had rendered valuable services to bee-keeping, and, further, that its continuance in some form or other was absolutely necessary to apiculture. He thought also it was very desirable that local associations should be brought into contact with the parent society. It was very important to devise some scheme by which the general opinion of bee-keepers could be obtained on prospective legislative work, and at the same time to bring together a large number of county associations with the object of furthering the interests of bee-keeping on modern lines. It had been said that to obtain consolidation money was wanted; but he deprecated too much stress on that, because if the subject were discussed purely on that basis they were apt to get into a vicious circle, which might be represented as saying in effect: "We cannot get consolidation without money; we want money, which we cannot get without consolidation." Under such circumstances, he thought nothing could be better than to bring all the various interests together, so as to ascertain how they could work unitedly with the best interests of the cause in view. He did not know how it would be possible for the county associations to make larger payments to the central body than they did at present. Many had a difficulty already in paying the affiliation fee, so that he feared an appeal in that direction would not be successful, some of the larger ones being willing to do so, while the others would think they were not getting adequate value for their money. He was rather inclined to the view that some scheme might be formulated by means of which both the county associations and the parent body would benefit without derogating from one another. It ought not to be difficult to hit upon some plan after the exhaustive discussion of that evening. Personally, he could not attempt to offer any suggestion at present, but hoped the Council would give the fullest consideration to the matter, and he believed that nothing was more likely to contribute to that end than a conference with representatives of the various county associations as suggested.

Mr. Reid, speaking as a regular attendant at the Conversazioni, felt that no one had read a paper at any meeting at which he had been present showing so much research and carefully detailed work as that to which they had listened from Mr. Garcke; he therefore desired briefly to propose a hearty vote of thanks to that gentleman for the admirable information he had placed before them.

The resolution was carried *nem. con.*

(Report continued next week.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[7070.] March "came in like a lion" and continued its resemblance to the same animal till it "went out." April has arrived, and the weather conditions are little or no better. Cold N.W. winds, interspersed with hail, sleet, rain, and thunder; and what of our poor bees during such a long spell of inclement weather? A glimpse of sunshine brings them out in quest of the needful, and the cruel storm beats them down in hundreds, never to rise again! If our weather samples are shared by other parts of the kingdom, spring dwindling will no doubt be very prevalent during the next month or more, owing to the losses of bees while foraging.

I have not yet tried the claustral system, but from what I have read it appears possible, by the aid of the dark porch, to exclude light from the hive, and thus induce the bees to remain quiet indoors till more favourable weather conditions prevail. It would be useful if some reliable bee-keeper who has hives on both methods in the same apiary would give an unbiassed opinion on the value of the claustral chamber on the lines of preserving bee-life during the past six weeks or more.

I was very sorry to see the report of the death of Mr. P. Scattergood. We shall not again see his genial face or receive his wise counsel at our meetings. We, too, on the borders of West Berks have recently lost one of our prominent bee-keepers by the sudden death of Mr. T. Pullen, of "Love's Apiary," Ramsbury, Wilts.

In the matter of queen-rearing, Mr. Jordan (7053, page 125) puts the question fairly. The Swiss climate may lend itself to late queen-rearing, in the same manner as the small section-boxes do in America, but I do not think that either system will be applicable to any extent in this country or adopted by British bee-keepers, mainly because of our variable climate. And in all our discussions on "queen-rearing" we should not forget that prior to the seventies of last century very little attention was paid to improving the breed of bees, and yet our native bees have managed to exist through good and bad seasons, have carried out the work allotted to them by Nature—viz., fer-

tilising the flowers—while gathering food for themselves and honey for the use of man, and have done it well. When we remember the heavy supers removed from our hives in the late seventies and early eighties one begins to wonder if we, with all our wisdom in cross-breeding and selection of drones, have very much improved our stock.

Along with others, I also beg to thank "H. S., Herts," for his letter (7054, page 126), and also to extend my sympathy to him in the loss of his bees. His case involves a serious problem for us bee-keepers who depend mainly on our bees for a living. It seems to me we should start a club to help those among us who are bearing these losses through no fault of their own. The question is, Who will take the matter up? The suggestions of "H. S." may have more in them than at first sight appears. —W. Woodley, Beedon, Newbury.

ISLE OF WIGHT BEE-DISEASE.

OPENING OF A SUBSCRIPTION LIST.

[7071.] As the result of a conversation with Mr. Silver and some correspondence with Mr. H. M. Cooper, I have consented to act as treasurer to a fund for the assistance of Isle of Wight bee-keepers who have lost their stocks from disease, my reasons being as follows:—First, Mr. Silver has promised not to distribute stocks or swarms to any apiary without a written certificate that it is free from disease, and that all bee-appliances retained have been thoroughly disinfected. Secondly, I feel convinced that the energy and ability to carry out the scheme successfully will be forthcoming. It is intended to send out not more than fifty stocks in the first instance, and then to await results. Some districts have been entirely cleaned out of bees, and these will be the first to receive reinforcements. Mr. Cooper, whose knowledge of the island as district hon. secretary to the local Association is intimate, believes that the news of a contemplated distribution of stocks will lead to a general cleaning up of apiaries, and be very beneficial. Although it has not been definitely proved that the disease is contagious, some experiments lately undertaken appearing to indicate the contrary, yet he is a strong advocate for disinfection. His own severe losses would alone make him very careful.

It was till latterly my opinion that it would be better to postpone for another summer any attempt to restock the island, but as it appears that bees are already being re-introduced, and that some of the stocks are known to be doing quite well, I now believe that it would be bad policy not to take advantage of the sympathy with our unfortunate brethren which actually exists. Trusting that this view will meet with general acceptance, I invite subscriptions of 1s. and upwards, all of which will be acknowledged by myself at once, and later on, if our Editors think fit, in the B.B.J. Promises of stocks or swarms should be made to Mr. John Silver, Croydon Grove, Croydon. I trust that it will be generally understood that I have nothing to do with their distribution, which will be carried out by Mr. Silver with the co-operation of Mr. H. M. Cooper.—H. J. O. Walker (Lieut.-Colonel), Leeford, Budleigh Salterton, April 5.

In connection with the fund referred to in Colonel Walker's letter, we have received a communication from Mr. J. Silver, Croydon, in which he states that, in addition to the list published in our issue of February 13 (page 61), the following donations have been promised:—

Mr. A. Malsey Spencer, £5 5s.
Alderman W. Lilico, 10s.
Mr. E. H. Taylor, goods value £1.
Jas. Lee and Son, Ltd., goods value £1.
Mr. T. E. Atkins, one swarm.

Mr. Malsey Spencer's promise is conditional on certain conditions respecting disinfection being fulfilled, and Mr. Silver mentions that it is open to any contributor to attach reasonable conditions to his donation, if it is so desired.

A WORD OF ADVICE WANTED.

[7072.] I shall be removing next month from Kent to four or five miles west of Glasgow, where I shall no longer be able to keep bees in my garden. As, however, I have no intention of relinquishing the pleasure of bee-keeping, I venture to intrude upon your hospitable columns to ask if some Scottish bee-keeper can suggest some district within, say, fifteen miles of Glasgow, in a westerly or northerly direction, where I might be able to establish a small out-apiary within reach of both clover and heather.

I should also be glad of any hint as to a method of finding a suitable "pitch." I had thought of advertising, and perhaps some Scottish friend could suggest a suitable paper for this purpose. As I know nothing of the locality to which I am going, I should be exceedingly obliged for any particulars kindly given by fellow bee-keepers.—C. Bradfield, Kent.

(*Correspondence continued on page* 146.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

Mr. Barber is another addition to the list of desirable bee-men, whose interest in the craft is not confined within the

area of his own bee-garden, as the following "notes" show. He says:—

"It was in June, 1904, that I became smitten with the bee-fever by chancing to call on a friend at that time, and our conversation happened to turn on the subject of bees. My friend (who was an expert at the craft) suddenly asked me if I had ever kept bees. I at once answered 'No,' having never had any knowledge of them whatever. Further conversation resulted in my interest being thoroughly aroused, and in the end I agreed to buy from my friend a second swarm hived in a 'W. B. C.' hive about a fortnight previously. I got the hive home in a few days, and on being examined the bees covered seven combs, which my friend said was very good. During that summer I was deeply interested in studying the bees and in watching them at work. In the autumn I purchased a stock in a skep, which the following summer (1905) sent out two good swarms, while from the stock in frame-hive I took 91 lb. of extracted honey. This success fairly aroused the bee-fever in me, and in 1906 I increased by artificial swarming, and also got a very good 'take' of surplus. Last year, however, was, I suppose, as bad a season for all bee-keepers throughout the country as could well be imagined. I got no surplus at all, but, having started queen-breeding, I managed to raise a number of queens from special strains, and got them posted off to customers while the short spell of fine weather we had lasted, but had to apologise to a lot of customers for inability to supply queens on account of bad weather. I have worked up a good connection for my honey, and have had to purchase largely each season after my own supply was sold, to keep up my trade connection. I have in my apiary three of Sladen's strains, as some customers prefer them; but to my mind the native British bee is as good an all-round bee as we could have. Most of the hives seen in photo were made by myself in the winter nights. I recommend the B.B.J. and the *Record* to brother bee-keepers, at the same time impressing on them the advantage of joining the county B.K.A. I also make a point of helping beginners by showing them how to handle the bees. Notwithstanding the bad season last year, one that I started in the craft took over 80 lb. of honey from his only two stocks, one of which also sent out a swarm, and from the parent hive I formed a nucleus by taking four frames, with queen-cells, brood, and bees attached, from the middle of brood-nest, putting them in an empty hive, and substituting for the removed combs four frames fitted with full sheets of foundation. I then put the swarm back, and he got a good portion of the above-named surplus from it. He packed his two old stocks up, also a good stock formed by nucleus as above, headed by a grand young queen. In conclusion I would like to mention the great help bee-keepers can get from your papers, and also from the county association, which everyone in the craft should join. Wishing our Editors and all readers health and prosperity in the coming season of 1908."

MR. J. F. BARBER'S APIARY, NETHER ALDERLEY, CHELFORD, CHESHIRE.

(*Correspondence continued from page* 144.)

HEATHER-HONEY AND DYSENTERY.

[7073.] Your esteemed correspondents Mr. Crawshaw and "D. M. M." have discussed this question from opposite points of view, but the result still leaves much uncertainty in the minds of many readers as to the suitability or otherwise of heather-honey for wintering bees on. I do not know that I can throw much new light on the subject, but with your permission I respond to the invitation of "Cumbrian" (7064, page 137), giving my views for what they are worth. First let me say that, like a true Scot, I think there is no honey in the world like that from heather. But there is variety even in heather-honey; in fact, it may be as varied in its composition according to the locality and season as may samples of "real Scotch" oatmeal manufactured from home-grown Scotch oats or adulterated with "foreign" ingredients. I speak of adulteration, not being sure that all honey gathered at the moors is heather-honey. For instance, Mr. Crawshaw's bees, merrily humming in the fir-tree tops last autumn, were no doubt gathering the exudations plentiful on the cones and bark of such trees during hot weather. Some of this coniferous honey would find its way into the cells to eke out the stores already there. Heather and fir-trees are often closely associated not only in the "land of brown heath and shaggy wood," but all over Britain.

During the early part of the past winter I observed more signs of slight dysentery in my own and other apiaries than are usual in normal seasons with bees wintering on food gathered at the moors, and the "droppings" were very dark in colour. The unfavourable climatic conditions of last summer would no doubt adversely affect the quality of the food on which the bees exist during the season most unfavourable to bee-life. Close observation also shows that dysentery is most common among bees living on stores gathered at the moors, especially in seasons like that mentioned above, and the severity of the attack is increased by long-continued damp or low temperature like that of the late winter. In favourable seasons, when the heather blooms freely about August 12, bees carry in pollen very freely, yet dysentery is comparatively rare in such a season. This would point to bad pollen as being more or less responsible for the mischief. It may also be said, as bearing on the point, that few stocks have their combs stored entirely with *pure* heather-honey. In most cases honey from other sources would be stored before the heather-flow began, and should the bees, in mid-winter, suddenly change from one kind of food to another when flight was impossible, derangement of the digestive system might result. We must therefore conclude that the varying composition of stores in different seasons is largely responsible for variable results. That bees can, and do, winter well on *good* heather-honey goes without saying, but many years' experience has convinced me that they are safer on *good* sugar-syrup. With respect to the granulation of heather-honey, I find that season and locality are to some extent responsible for the result. I have known it remain liquid for more than one season, if stored in a strong colony; while at other times it seems to granulate quickly, especially in weak stocks, where the bees cluster on very few combs. The sections mentioned by "Cumbrian" were probably kept in a suitable temperature. To sum up, those bee-keepers who are near the moors can, in an average season, have their stocks cheaply supplied with winter stores which are reasonably safe with average care; but apart from the question of economy, they would be safer, under varying weather conditions, on good syrup, without any pollen being supplied until breeding is under way, and the bees are able to fly more frequently abroad.—G. W. Avery, Armathwaite, S.O., April 4.

A MARCH SWARM.

[7074.] I got the enclosed cutting from the *Bradford Daily Telegraph* the other day, and, thinking it might be of interest to your many readers, I send it on. There is no doubt that we live and learn. Perhaps Mr. Crawshaw, who, judging from his remarks in the B.B.J. about green-fly and "milking-time," must have a very wide knowledge of insect life, would be able to enlighten us on the wiles of the wily "death's-head moth"? The cutting reads as follows:—

> "A queen-bee, it is said, can hypnotise her whole hive whenever she wants to. She makes a curious humming sound, and within a moment or two every bee in the colony falls into a hypnotic trance. The death's-head moth is also attributed with possessing hypnotic powers. Entering a hive, it makes a sound not unlike the queen-bee's note, and, the bees immediately sinking into slumber, the moth proceeds to plunder at its leisure."

Last season, in this part of Yorkshire (Wharfedale), was about the worst, I should say, bee-keepers in the district ever remember. I had to feed my bees all through the spring and summer in the hope that I should get some sort of a return from the heather (which is practically the only source of honey in this be-

nighted region). But the heather was almost a failure, with the result that I had to feed again for winter. I have come through the latter having lost three stocks. However, I mean to make "things go" this season, if the weather will only give me a chance. Wishing yourselves, the B.B.J., and all bee-keepers success during 1908.—J. NORMAN LONGFIELD, Yorks.

FIXING FOUNDATION IN FRAMES.

[7075.] I see that your able and esteemed critic in general, Mr. L. S. Crawshaw, has been doing a little "uncapping" on my device for wiring frames (page 109), with the usual notes of interrogation. We always like to read his profitable notes, but, speaking for myself, I do not relish a wrangle with such an adept at his art, much less to try to wrestle with him. However, in response to his first question, "Are combs built over this wiring never deformed?" I would say, "Well, hardly ever!" But the axiom "Bees do nothing invariably" still holds good, and in practice I never find contiguous cells misbuilt. The wires of brood-combs may be withdrawn after the combs are drawn out, if anyone wishes. But for surplus-chambers they are better than a single wire, as they act as a support or buttress on either side of the comb.

The foundation is not fixed at one operation. The sheet is first fastened to the underside of the top-bar by any method preferred, and then the wires are put in the holes and twisted up at the ends; this action has the effect of straightening the sheet and keeping it ever afterwards straight. And with me it is a far more expeditious way of doing it, as I can do three or four to one as done with the heated wheel-embedder, and time is a very important item with a busy man. I have several more devices for various bee-purposes which are heterodox, but I shall still continue to use them, and will publish them with our esteemed Editors' permission.—R. GROSE, Bodmin.

ISLE OF WIGHT BEE-TROUBLE.

[7076.] Be not despondent, brother Cooper, neither be thou sore at heart! The ebb and flow of the ceaseless tides around your charming little island teach in their immutability the fixed course of events. Nature, in her most ruthless moods, never exterminates life, nor will she in this case. The Editors—good, worthy gentlemen—were, maybe, a little hard on you in the beginning, but only for the good of the cause: they know so well the mischievousness of a blatant yellow Press whose very life depends upon a scare.

Forgive and forget, friend, and let us mutually discuss this serious bee-trouble. Eradication by extermination would probably be the wisest course to adopt in this matter, but man is a speculative and argumentative being, and iron-shod methods hardly appeal to him. I think, therefore, that for experimental purposes a few swarms given to really good bee-masters in the island should prove of value in solving the mystery of this strange bee-malady. Experiments may discover some treatment to which the disease is amenable—a consummation devoutly to be wished.

Per contra, my opinion is that no money should be given for a general stocking of the island. If money be sent, let it be to compensate for burned appliances, for I do think there should be a general clearing out, and the scourge purged by fire.

The cause that led to the outbreak will ever lie in the lap of the gods; what we now have to deal with is a zymotic disease, and must be treated as such.

I am sure all B.B.J. readers will greatly deplore the pecuniary losses to our brothers of the craft in the island, and be willing to contribute their mite, at least towards the cost of purification, lest the trouble be at their door to-morrow.—T. E. ATKINS, Atherstone, Derbyshire.

A BEGINNER'S REPORT.

[7077.] Being a novice at bee-keeping, I take the liberty of sending you a few notes of my experience, which may possibly encourage others, like myself, who only have a small garden and live near a town, to go in for bee-keeping. I began in 1905 with one stock, but they only yielded twenty-one sections that season. The following year I bought three lots of driven bees, which I united and built up into a strong colony, and from them got ninety sections, while my first stock yielded sixty sections of surplus. Last year, like most bee-keepers, I got only a little honey—forty sections and one swarm from my two hives. Not being discouraged, I bought another stock, and find that the three hives have so far wintered very well.

I am greatly favoured in having our excellent and clever expert Mr. S. Jordan living near me, though I am afraid sometimes he wishes I was far away! But he has been a true friend, always so willing to answer questions, and when I have been in any difficulty he has come to my aid and put things right. I feel sure it is such kind and ready help given to beginners which not only encourages them to persevere, but is the means of getting

others to take up our useful and interesting hobby.

The BEE JOURNAL and the "Guide Book" are also most helpful, as are other books I have read upon the subject. They have opened out a new world of pleasure to me which I never dreamed of.

Wishing the B.B.J. and all county associations, along with every bee-keeper in them, a prosperous season and a large increase in members in 1908.—P., Bristol.

WEATHER REPORT.

WESTBOURNE, SUSSEX.
March, 1908.

Rainfall, 2·74 in.
Heaviest fall, ·54 in. on 5th.
Rain fell on 17 days.
Above average, ·62in.
Sunshine, 137·8 hours.
Brightest day, 21st, 9·5 hours.
Sunless days, 2.
Below average, 7 hrs.
Maximum temperature, 54° on 9th.
Minimum temperature, 26° on 5th.
Minimum on grass, 21° on 20th.
Frosty nights, 14.
Mean maximum, 46·7.
Mean minimum, 34·4.
Mean temperature, 40·5.
Below average, 1·5.
Maximum barometer, 30·215 on 12th.
Minimum barometer, 29·224 on 6th.

L. B. BIRKETT.

MARCH RAINFALL.

Total fall, 3.43 in.

Heaviest fall in 24 hours, 1.05 in. on 24th.

Rain fell on 23 days.

W. HEAD, Brilley, Herefordshire.

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. Macdonald, Banff.

Intensive Bee-keeping.—Mr. Doolittle believes thoroughly in this system—*i.e.*, *management* pays. The advocates of "keep more bees" pitted against his system come off second best every time, he contends, while they have much more money sunk in the business. "A live apiarist can care for one-half the number of colonies on the good-management plan as easily as he can for double the number on the let-'em-alone system; and this number will give the apiarist as good results in dollars and cents as will the whole cared for in the neglected way necessary with 'keep more bees,' and save the extra honey consumed by the extra one-half of the number of bees as clear gain to the bee-keeper. And, besides all this, there is an inspiration and enthusiasm which comes with the management plan that is worth a whole lot to the bee-keeping world." The editor of the *Review* sets this down as simple theory, and sums up his own ideas on the subject as follows:—"I have travelled about considerably, visiting hundreds of bee-keepers in their homes, and one of the things that I have noticed is worth pages of theory, and it is this: The prosperous bee-keepers are those who keep the most bees." Another writer in the *Review* also contends that it is the "one-yard" bee-man who is largely letting them take care of themselves, not the specialist who is devoting his best thought and energy to the business. This brings us to the interesting point of comparison.

Extensive Bee-keeping.—Mr. Townsend, an extensive bee-keeper, believes that there is no system of management that will produce more bees and get them in time for the honey-flow than simply to see that every colony has 30 lb. of honey for their winter store the fall previous. "If the bees are wintered in fairly good shape, and have this capital of honey to work on, we doubt if there is any process of handling the brood during spring that will cause them to breed up into mammoth colonies in time for the honey-flow that will beat this let-alone plan that is adopted by most of the outyard bee-keepers. Those Michigan bee-keepers who keep the most bees produce the best honey and command the best price." Mr. R. L. Taylor (*Review*, page 80) believes "abundance of stores is pretty nearly the whole thing. In fact, early bloom with sufficient stores at the beginning of winter goes far towards the solution of the problem."

We are not so intimately interested in extensive, or even outyard, apiaries in this country, but the bedrock principle involved affects us just the same. On the one hand, we have those who believe in fussy manipulation, under the impression that bees best thrive under their owner's active interference and coddling care; while we have, on the other hand, those who store heavily, in autumn if necessary, in the confident hope and trust that they thus enable the bees to work out their own salvation. Perhaps the whole weight and argument is not entirely in favour of either of these systems, while a great deal depends on the man and the locality.

Preserving Fruit in Honey.—Gleanings says, page 278: "We have just been eating some strawberries preserved in nothing but honey. The jar from which we took the fruit was labelled 1906, yet in 1908 there was not a particle of mould on top, and we are of opinion that the berries would have kept several years longer." Mrs. McGlade, who potted these strawberries, preserves other fruits in the same way, and declares that, kept in honey, they are about as fine as it is possible to have them in this present life. Their keeping qualities are excellent; none spoil kept two and three years.

Feeding All-sugar Stores.—"Captain Hetherington once said that he did not winter with uniform success until he fed each colony enough sugar-syrup stores to

carry them through the winter." Mr. Holterman, a Canadian, adds: "If those who reside far enough north so that the bees are confined to the hive for two, three, or four months would provide each colony with, say, 15 lb. of sugar-syrup stores, the entire bee-keeping industry would undergo a change. It would become an industry of greater stability." This sentiment seemed to pervade the late Canadian conference, and we have it reported that "during the past years a great loss had been occasioned, in part at least, by inferior natural stores for winter; while there was an *entire unanimity* of opinion among the members that it was desirable to give bees sufficient *artificial* stores to carry them through the winter." This is an old-new revival.

From Germany we learn the same sentiment prevails there. "A bee-keeper in Germany reports loss of bees in his district in the spring of 1907 at 80 per cent. Only colonies that had been fed with sugar-syrup in the fall escaped dysentery. The reason, they think, was unsuitable fall honey from heathers, &c. They condemn all honey that granulates. Extract that honey, and give sugar-syrup in the fall." L. S. C. might kindly note. I will have to revise some of my preconceived notions if the prophets are against me!

Comb Honey.—A Canadian editor lately informed his readers that bees do not make wax for us to eat. Further, he thinks that both honey and comb should not be eaten, because Nature never so intended it. I put a cross against that statement, intending to make a comment thereon, but Mr. Hutchinson kindly supplies me with one as follows:—"I recently met a bee-keeper who had been greatly troubled with constipation until he took up a regular diet of *comb honey*. Extracted honey was not effective in this direction, but honey in the comb had proved a radical remedy." A learned doctor assures us that persons whose digestion needs a little assistance will find comb honey just the thing. The wax furnishes a gentle stimulus to the digestive membranes. Comb honey, stand one up!

Queries and Replies.

[3680.] *Renewing Combs.*—On examining one of my hives lately I found the quilts and packing were damp, and so was the wood inside, while the bottoms of some of the combs appear mouldy. The stock was strong last autumn. No surplus honey was taken from it, and there appeared to be an ample supply left for the bees' use—in fact, there is still some sealed honey, but the stock is not at all strong in bees. I did not see any brood, but a few bees have been carrying in pollen on different occasions. The combs do not appear to be quite right so far as regards condition, and in order to get your opinion about their usefulness or otherwise I have cut a piece out of one and send it for inspection, and shall be grateful for any advice. I uncapped some of the sealed honey, thinking the bees might require food. There are ten frames in the hive, and the space between brood-chamber and sides of hives is packed with cork-dust and bags of the same material over quilts. I have another hive containing a very strong stock in which there is a quantity of sealed brood. I may say I am a beginner. I bought the three hives this time last year.—SAXON, Bromsgrove.

REPLY.—Combs like those from which the sample sent was taken should be got rid of without delay. They are worse than useless, being very old and black, with misshapen cells half filled with hard, mildewed pollen. No good bee-keeper would tolerate such combs in his hives for a moment longer than he could help. After a little experience you will see how helpful it is to have only straight, clean combs with worker-cells fit for healthy brood to mature in. It accounts for the stock being weak, and you should start the bees building a few new combs on full sheets of foundation if they are strong enough to generate sufficient warmth for that operation.

[3681.] *Using Robbed-out Combs.*—1. I have a hive holding ten frames which was robbed out last autumn, and the combs are consequently empty, except for a little pollen, which latter is slightly mouldy. Will it be safe to have a swarm on these frames of comb as they are, or should they be treated in any way previously? 2. I have also some partly-filled sections (mostly unsealed) in which the honey smells a little acid. Shall I be doing right in giving these sections to the bees as food, or will the latter be injured thereby?—E. P. OKEDEN, Dorset, April 2.

REPLY.—1. If the bees were perfectly healthy when the hive was robbed out the combs may be used as proposed, but not otherwise. The swarm will clear away any mildew on the surface of the pollen. 2. The "acid" smell is a sign of fermentation having started, and this, if only slight, will do no harm to the bees at this season if they will carry it down for use as food. But it would spoil the section for table use.

[3682.] *Transferring Bees.*—Your valuable advice through the BRITISH BEE JOURNAL on the following will be greatly appreciated by a beginner in bee-keeping. Early last autumn I purchased a stock of

bees in a frame-hive. They had evidently been kept by a man with little or no experience in the craft, and neglected, so that I now find it impossible to remove the frames in the brood-nest. They look as if they had not been lifted out for several years, and have now become so fastened together that they can only be removed by breaking them. The bees appear in a very prosperous condition, but of course there may be traces of foul brood; but as the frames are now immovable I am unable to inspect them. I want to transfer the bees into a new hive, and therefore ask: Had this better be done, and, if so, at what time of the year should the operation be started? Your reply will greatly oblige.—G. W. Long, Bristol, April 2.

Reply.—If the bees are as prosperous as stated, there need not be much fear of foul brood; but the task of cutting out crooked and cross-built combs is beyond the power of a beginner. We therefore advise you to let the bees transfer themselves as directed in the "Guide Book" (new edition), pages 149 to 151.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

Skeps (St. Leonards).—*Transferring Bees to Frame-hives.*—The changed appearance of the location, caused by substituting a frame-hive for the skep, will so minimise the risk of losing bees that we should certainly adopt the plan proposed. At the same time it will be advisable to make the change as soon as convenient.

I. J. Mole (Wilts).—*Joining B.K. Association.*—The hon. secretary of the Wilts B.K.A. is the Rev. W. E. Burkitt, Buttermere Rectory, Hungerford.

T. H. (Witham, Essex).—*Introducing Foreign Queens.*—It was a mistake on your part to put the caged Italian queen beneath the quilt of a strong colony of bees and leave her there from Wednesday to Friday. The very fact of a laying queen being at work below would so irritate the bees against the stranger as to cause her rejection. Had the laying queen been removed, and the stock rendered queenless before introducing the Italian, the chance of her being accepted would have been far greater.

W. Arnold (Southampton).—*Bees Dead from Want in March.*—The closely-packed bees lying head foremost in the cells dead show a typical case of death from famine. There is no sign of disease, but you were perfectly right in advising total destruction of the combs and dead bees.

H. Jackson (Durham).—*Candy-making.*—No. 1 is good in quality and properly boiled according to Bro. Columban's recipe. No. 2 is a failure, being altogether too hard for use as bee-food.

G. H. H. (Bath).—Parcels of dead bees, as sent, are of no use in diagnosing disease. We can therefore only say the bees appear to have died from want of food.

(Mrs.) E. C. (Enfield).—*Joining B.K. Associations.*—Major Fair, hon. secretary of the Middlesex B.K.A., Anlaby Road, Teddington, will give you full information with regard to membership, if written to.

Aliquis (Weston-super-Mare).—If boiled a little longer, your sample would have been all right and good. We have no doubt you will succeed next time.

R. T. W. (Pinner).—*Useless Combs in Hives.*—The sample of comb sent is old and full of hard, mildewed pollen, rendering the cells perfectly useless to the bees. Such combs are worse than useless in the hive, and should be burnt, their places being filled with frames fitted with full sheets of foundation. The present time is suitable for starting operations in comb-building by giving one frame at a time as soon as the present very cold weather has passed by and bees are flying freely.

Honey Samples.

W. Ringer (Surrey).—Sample is from mixed sources and of fairly good quality, but not up to show-bench standard.

Suspected Combs.

A. H. (Bromsgrove).—Sample No. 1 has no brood at all in cells, the latter being occupied with mildewed and mouldy pollen only. No. 3 is old, distorted comb, with ill-shaped cells throughout. Such comb is altogether unfit for use in the hive, and should be either burnt or melted down for what little wax it contains.

W. M. (Battle, Sussex).—When combs have reached the putrid condition of sample sent the whole contents of the hive should be burnt and the hives disinfected.

Doubtful (Nailsworth, Glos.).—Comb sent contains only old pollen, reduced to dust by the tiny insects known as pollen-mites.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

WANTED, Bee House, in Sections, cheap. — DUKE, 17, Jewin-street, E.C. f 29

6 STRONG STOCKS BLACK BEES, 18s. each, on Standard Frames.—JOHN GOODSELL, Sissinghurst, Cranbrook. f 38

8 STOCKS, BAR-FRAME HIVES, 15s. each; 4 ditto Skeps, 9s. each. Stamp for reply.—WEBB, 19, Gordon-road, Swindon. f 25

3 NEW 10-FRAME HIVES, Lifts, painted 3 coats, 9s. each; 1 dozen Shallow-frame Racks, 1s. 3d. each. Approval.—WARREN, JUN., Great Horwood, Winslow.

FOR SALE, 7 Stocks Hybrids, 3 Natives, in Frame Hives, guaranteed healthy.—BECKENSALL, Stoneleigh, Christchurch-road, Pokesdown, Bournemouth. f 21

FOR SALE, 'Cello, beautiful rich tone, in perfect condition, complete with bow, &c., a rare bargain to anyone requiring a superior instrument for solo work in orchestra. Price £5. Approval; Deposit.—A. DOWNING, Melton Villa, Bankstreet, Mexborough, near Rotherham. f 24

"ALNWICK" FEEDER, best and cheapest for all seasons, rapid or stimulative. Price 6d. each; postage of one costs 3d., two 4d., six 6d., dozen 10d.—J. BALMBRA, East-parade, Alnwick. f 30

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The

British Bee Journal

AND BEE-KEEPERS' ADVISER.

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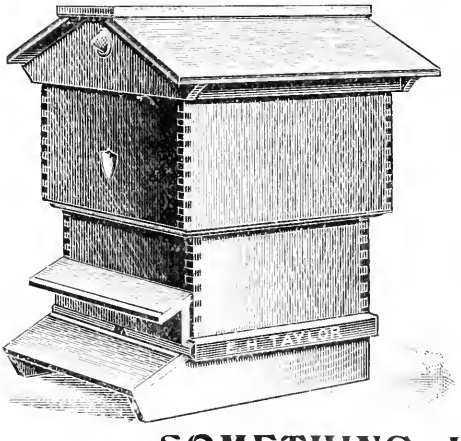

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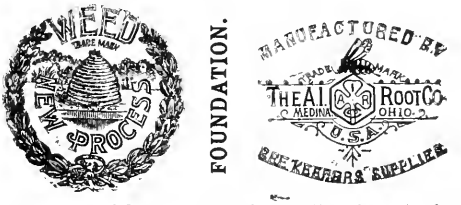

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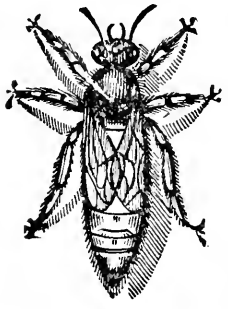

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Editorial, Notices, &c.

M. EDOUARD BERTRAND,

Président de la Société romande d'apiculture.

We have great pleasure in being able (through the courtesy of M. Bretagne, editor of the *Bulletin de la Société romande d'apiculture*) to present to our readers the portrait of M. Ed. Bertrand, who, against the greatest opposition, succeeded in placing modern methods of bee-keeping on a sure basis not only in Switzerland, but also in other French-speaking countries.

M. EDOUARD BERTRAND.

In the B.B.J. of January 21, 1904, we published a somewhat lengthy biography of M. Bertrand when he retired after twenty-five years' arduous work, and now we gladly take the opportunity of printing what M. Gubler, the chairman of the society, has to say in the above-named journal of its president:—"Sixteen bee-keepers, grieving over the lamentable state of apiculture in our country, met on April 19, 1876, at Lausanne to establish the 'Société romande d'apiculture.' M. Bertrand was chosen secretary

of the society, and at once became its moving spirit.

"It was very soon evident that the society required an organ of its own for attracting members and making known the best methods of bee-keeping; but the finances of the newly-formed society were inadequate for such an undertaking. M. Bertrand therefore boldly undertook the task, and from January, 1879, published at his own cost the *Bulletin d'apiculture de la Suisse romande*. His friend Jecker took upon himself to edit the calendar for beginners during its first year. The paper started auspiciously, being favourably received not only in Switzerland, but everywhere in Europe, and even beyond the seas, subscribers flocking from all sides, and in the end the editor was invited to call the journal *Revue internationale d'apiculture*. His activity did not rest there, for he began courses of instruction at his own residence, where the theory and practice of rational bee-keeping were imparted, and in this way formed a band of disciples, who spread the new methods throughout the country.

"M. Bertrand had the gift of interesting all with whom he came in contact, and fellow-labourers multiplied. The index of the *Revue* for 1892 gives the names of nearly 200 contributors of articles. Eminent scientists and practical bee-keepers of the first rank—Layens, Cowan, Neumann, Dadant, Zoubareff, and many others—met in his Tusculum at Nyon, where they were hospitably entertained by M. and Mme. Bertrand. Here the most important questions connected with apiculture were discussed, and our chief, like a diligent bee, extracted drop by drop the quintessence of these deliberations, imparting them to his readers in the *Revue*. It is therefore not surprising that after twenty years these articles should not now be regarded as old-fashioned, but are read to-day with as much profit as when first written.

"M. Bertrand was in correspondence with bee-keepers in all countries, and with unfailing kindness answered all letters asking for advice. In order to avoid repeating the same answers so frequently, he published, in 1884, his 'Conduite du Rucher,' and this bee-keepers' *vade mecum* (now in its ninth edition, and translated into six languages) has been an immense success.

"Before this M. Bertrand had published several pamphlets: 'Les meilleurs modèles de ruches usitées en Suisse,' 'Les conseils et instructions aux commençants,' 'La routine,' 'La ruche Dadant modifiée,' &c. Later he translated those classical works of Cowan's, 'Le Guide de l'apiculteur anglais' and 'L'anatomie de l'abeille, Histoire naturelle, et Physiologie,' and 'La loque des abeilles,' by F. C. Harrison. In 1896 he published 'Lettres inédites de François Huber,' and with his assistance M. Dadant brought out the well-known work 'L'abeille et la ruche.'

"So much of strenuous labour was bound in time to tell on the strongest man, and M. Bertrand's health also became seriously shattered by a persistent attack of influenza, which he had difficulty in getting rid of, and so, after twenty-five years of arduous work, he was compelled to take leave of his readers, universally regretted.

"Tokens of esteem and sympathy were forthcoming on all sides, and his efforts in the cause of bee-keeping were eulogised and appreciated everywhere. Meanwhile, we may say those who are now reaping the fruits of his labours can have no adequate idea of the severe struggle he had to maintain in face of opposition against old methods, ancient prejudices, and personal susceptibilities, even in our own society.

"However, he was not the man to recoil in face of difficulties. With his consummate tact and foresight, he knew how to do the right thing in order to produce the desired effect. From the beginning he opposed multiplicity of systems, recommended large hives, and it is entirely due to him that the 'Dadant' hive is now regarded as most suited to our conditions, and predominates throughout French-speaking Switzerland. Old-fashioned hives have almost entirely disappeared; rational methods are adopted by most bee-keepers; and apiculture has made such progress that we now hear talk of over-production and consequent lack of sales, but everywhere new life animates the apicultural world. The seed sown by M. Bertrand has germinated well and borne good fruit. The satisfaction of work so well done and blessed must add happiness to the evening of his life, which we trust may be extended for many more years, so that he may be frequently present at our meetings to give us the opportunity of expressing our indebtedness to him."

BRITISH BEE-KEEPERS' ASSOCIATION

CONVERSAZIONE.

(*Concluded from page* 143.)

Mr. Till then exhibited drawings of the "Normansell Cup," which, he said, was the most precious possession of the Wax Chandlers' Company, the Master of which was, by virtue of his office, President of the B.B.K.A. The advantage of this was that they were associated with an ancient Company which represented at one time a very important industry; that was before the days of cane-sugar, when wax was the only product used in religious worship. There was a great demand for it before the days of

mineral wax. In the Hall of the Wax Chandlers' Company was an old loving-cup of the time of Charles II., on which were represented the various processes of bee-keeping—hiving bees, melting wax, &c. The drawings mentioned above showed all these manipulations, and were passed round for inspection, evoking much interest among those present.

The Chairman exhibited a model hive of novel construction designed by Mr. D. Davies, Abergwili, Carmarthen, who intended to be present that evening for the purpose of explaining the special features of his invention, but was unfortunately unable to leave home through an attack of influenza.

In the enforced absence of the inventor, Mr. Cowan explained the various sections of the hive as shown on a small scale in the model, together with the method of working, and how the various parts were utilised in attaining the desired object. In doing this he (the Chairman) had the advantage of showing two sections of the hive of full size—viz., (*a*), the box by means of which an artificial swarm can be made, and the number of bees measured off, so to speak, into large or small swarms as desired; (*b*) a nucleus-hive for queen-rearing; (*c*) a drone-trap for getting rid of superfluous drones in the swarming season, thus reducing the population and tending to do away with the swarming fever in hot weather. All these items were shown and explained, and created much interest among those present. Another novel feature of the hive was the double floorboard, by the use of which the incoming bees pass along a tunnel below the floor of the brood-nest and enter the hive at the rear, while the outgoing bees make their exit through the "swarm-catcher," placed in front of the body-box when in use.

The Chairman's description and explanation of the various details were attentively followed by the company, but it would need a complete specification, with drawings of the various parts, to make the inventor's ideas clear to readers. We therefore enumerate (condensed from his lengthy description) the leading advantages claimed for the hive by Mr. Davies for the benefit of those not present at the meeting: 1. Swarms are invariably captured. 2. All drones are caught, and can be either exterminated or may be preserved in a special hive for mating purposes. 3. The hive may be closed and the bees confined at any time during winter, or even in summer, without risk of overheating, owing to the ample ventilation provided. 4. Bees entering the hive pollen-laden do not have to pass through the queen-excluder zinc, so no pollen is lost. 5. An artificial swarm may be made from captured bees by the use of a ventilated box fitted with cones, through which latter the bees pass, attracted by the light, and not being able to return—are caught ready for sale as an artificial swarm. 6. By the temporary use of the swarm-catching section supers may be nearly cleared of bees when removing honey, thus lessening trouble and doing away with use of smoke or carbolic acid. 7. By covering the excluder in the trap and in the swarm-catching chamber all outgoing bees are caught and retained, while the incoming loaded workers remain in the hive.

The Chairman and Messrs. Till, Carr, Walker, and many others discussed conversationally the merits of the invention, the prevailing opinion being that the hive was somewhat too complicated for general acceptance. Nevertheless, the Chairman was particularly anxious that the designer of the hive, who had shown great ingenuity, should in no way be discouraged from giving rein to his inventive capacity.

The Chairman next exhibited a comb, two years old, which had been extracted recently, and was sent up for exhibition simply to show the efficiency of a method of wiring described in the Bee Journal of a week or two ago.

Mr. Till said he would like to mention an interesting fact which had been brought under his notice—namely, that the Royal Horticultural Society had specified in their schedule that all preserved fruits must be put up in white glass bottles or jars. A Maidstone manufacturer resented this, as it seemed to him a rather officious recommendation, because most of the glass procurable for the purpose of English make bore a slight tinge of green. The result of the recommendation was, therefore, that fruit of this country could not be put up in English-manufactured glass bottles, and in consequence, merely for the sake of colour, English glass-makers were severely handicapped.

The next item of interest shown was sent by Messrs. Thorpe and Sons, Pateley Bridge, an ordinary full-sized brood-chamber fitted with standard frames, the latter having top-bars of novel construction, being capable of spacing the frames at the usual distance apart, or of reducing the spacing to 1¼ in. for the prevention of drone-comb building by the bees if desired, as is now done by the "W. B. C." metal end. Messrs. Thorpe's top-bar is on the broad-shoulder principle, with projecting shoulders of new form, which by reversing alternate frames extend or narrow the space between the face of combs as desired. The new invention was closely examined by the bee-keepers present, and the ingenuity of the idea admitted and freely commented on. It needs a thicker top-bar than that of the standard frame to strengthen the abut-

ting shoulders, and prevent them getting broken off when raising the frame at times when the ends are stuck fast by propolis. It was also remarked upon that the necessary and frequent reversing of frames might cause trouble unless the combs are built with a perfectly flat surface; it would cause trouble by projecting surfaces being joined together by brace-combs. This appeared to be the main objection, and if those who adopt the new idea would take the needful care to have all their combs perfectly flat and interchangeable, no doubt many would be inclined to make a trial of the new top-bar, which, as already said, aroused considerable interest. In forwarding the exhibit to the B.B.J. office, the makers desired to have the opinion of those present at the Conversazione on their invention, and it is probable that we may have an illustration in an early issue, showing the shape and method of working the new top-bar.

Mr. W. F. Reid exhibited a new form of feeder specially adapted for stimulating or slow feeding. The outer part consists of a glass globe open at both ends. The lower opening is larger than the upper, and is placed upon an opening in the quilt, giving access to the bees. From the upper part of the globe hangs a tube of seamless fabric, closed at the lower end, and kept open at the top by means of a ring fitting upon the upper part of the globe. Into this inner porous tube granulated sugar is placed. During cold weather the moisture from the hive condenses upon the sugar and forms syrup, which filters through the fabric and is taken by the bees. There is a slight ventilation through the porous fabric, and the warm air thus rising through the feeder renders it possible for the bees to feed even when the outer temperature is low. As the level of the sugar sinks more is added at the top. When more rapid feeding becomes necessary water is poured upon the sugar, and by repeatedly renewing sugar and water in this way considerable quantities of food may be given in a short time. The feeder has been working successfully for a year, but the experiments with it are not yet complete, especially with regard to the texture and diameter of the inner tube. It was shown at the present time as being possibly of interest in connection with the proposed discussion on spring feeding.

Mr. Till proposed, and Mr. Gaycke seconded, a vote of thanks to the Chairman, which was suitably acknowledged, and the Conversazione came to an end.

KENT BEE-KEEPERS' ASSOCIATION.

We are requested to say that, with the object of furthering the organisation of the Kent B.K.A., the provisional council (chosen at the Eynsford Conference last year) will meet at Messrs. Lyons's Popular Restaurant, Piccadilly, at 2 p.m. on the 16th inst. This date has been chosen because some of the members are also members of the British B.K.A., whose Council meets close by in Jermyn Street later in the afternoon. Mr. Arthur Schofield is kindly acting as hon. secretary *pro tem.* pending the choice of a permanent secretary.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

SOME SPRING FLOWERS.

[7078.] *Fifty Spring Bee-flowers.*—Anemone, apple, apricot, *Arabis alpina*, auricula, barberry, blackthorn, butterbur, buttercup, cabbage seed, celandine, cowslip, currant (flowering), currant (black, white, and red), crocus, daffodil, dandelion, daphne, gean or wild cherry, gooseberry, gorse or whin, hawthorn, hazel, hellebore, hepatica, laburnum, laurustinus, limnanthes, marsh marigold, marshmallow, mespilus, narcissus, peach, pear, phacelia, plane or sycamore, plum, primrose, rape, rocket, rosemary, salix, scilla, shamrock, snowdrop, turnip bloom, tussilago or coltsfoot, violet, wallflower, and willow.

Elevation, latitude, or a backward season may throw some of these into the list of summer blooms, to be given later. All the fruit blossoms on bush and tree in favourable years yield richly both of pollen and nectar; so does the plane or sycamore. All of these supply the best of spring stimulants where plentiful. The only other flower deserving special mention as a honey-yielder is the willow, which is also rich in pollen. On a smaller scale cabbage and turnip bloom yield bountifully, and gorse, dandelion, daphne, hawthorn, and arabis may be placed in the same category. All the list yield pollen in large or small quantities, and in addition to those enumerated above may be named as specially rich the crocus, gean, coltsfoot, petastes, marsh marigold, and buttercup. For planting in quantity, all the flowering fruits deserve attention, but of the others I would single out only crocus, *Arabis alpina*, wallflower, and daffodils.

Bee-keeping in Siberia.—We are too apt

to set down this country as one of snow and ice, forgetful of the fact that parts of it stretch down to a point further south than Scotland and several European countries. The summer over a very large area is tropical, lasting for more than five months. The country abounds with basswood or linden trees, as many as about twenty varieties being found, and as they bloom at different periods, this prolongs the flow. This is important, as almost all surplus honey is gathered from this bloom. Many carry on bee-keeping as a speciality, some keeping as many as six hundred hives in one apiary. In winter the bees are placed in cellars or various repositories, somewhat on the blockhouse principle. As they are buried there under the snow for about seven months, very little honey is consumed during the winter, as the low uniform temperature keeps the cluster in a semi-somnolent condition without any disturbance. When swarms come off, two or three are joined up to make a strong colony, weighing, it may be, from 10 lb. to 15 lb. of bees. Such a powerful lot may collect anywhere between 100 lb. and 200 lb. of honey. Innumerable straw hives are dotted all over the country, but many of the more forward apiarists are adopting more modern frame-hives, and the industry is making rapid advances. It is well known that in European Russia bee-keeping is very extensively carried on. The late boom in Caucasians has still further helped to bring the industry into greater prominence in recent years.

"*A Unique Book on Bees.*"—One of the curiosities of the library of the late Dr. Gott, Bishop of Truro, sold by auction in London by Messrs. Sotheby in February last, was a small octavo volume in two parts. The first bore the title "Extracts on the Natural History of Bees, from F. Huber." Then followed seventeen pages of text, the last bearing the legend, "Printed by R—, Elgin." The title of the second part, containing sixty-one pages of text, was "Extracts and Observations on the History and Management of Bees, from Keys Bonner, &c.," with a full imprint at the end, "Printed by R. Russel, Elgin." The book is no doubt unique of its kind, for the extracts were translated by R. Russel, a youth of fifteen, who is said to have cut the type, set it up, and worked off the sheets. After binding up the volume, he presented it to Mr. William Blackwood, the founder of *Blackwood's Magazine*, who in turn presented it to Sir Francis Freeling. The volume was purchased by Mr. Tregaskis for £2 18s.

Introducing Queens.—How often in the past have we found this to be a risky and profitless undertaking! Since the question of a plurality of queens in a hive has arisen, it strikes me that frequently this may be the explanation of our failures. We have hunted for a queen and deposed her, introducing the stranger, oblivious of the fact that a second queen may exist in the hive. Some high authorities maintain that when bees supersede an old, failing queen they very rarely evict her from the hive, but leave her there perhaps to the end of the season, or until she dies a natural death. This, if correct, may be the secret of many an unsuccessful introduction.

Forethought in Bees.—Before leaving their old home as a swarm, bees, taught by a wise prevision of Nature, gorge themselves, filling their sacs with honey sufficient to keep them alive for several days. If the first few are unfavourable for honey-gathering, here is a reserve of stores, enabling them to start comb-building without let or hindrance. The same marvellous instinct and forethought in the bee enable us to get swarms sent to us away North here even from the South of England—sent, too, in empty boxes, with no comb or stores, and the bees survive, and are bright and lively after being thus confined without food for three or four days. Securing such swarms is the very best way of starting bee-keeping or adding to one's stocks. All beginners should start with swarms in new hives and with new appliances—everything fresh from the hands of the manufacturer. The novice should from the first interest himself in the progress made in comb-building, note the results of the queen's ovipositing, study the development of the egg, observe the transformation undergone by the larva, take an interest in the metamorphosis of the nymph and the full development of the bee from egg to perfect insect. Every fact we acquire adds a new zest to the pursuit, and enables us to carry on our work on more intelligent lines. We hear a lot about the bee's wisdom, her industry and diligence, but of all the traits in her character no other is so full of interest and fascination as that of the prevision and careful forethought she displays in so many countless ways.—D. M. M., Banff.

NOTES FROM NORTH HERTS.

[7079.] *Foul Brood.*—Reverting to Mr. Crawshaw's mention of this subject on page 129, I wish to say disinfection is a precautionary measure, but if the disappearance of disease depended on the destruction of every spore there would be very few cases of cure to record. Bees would have been exterminated long since if their only protection from microbic disease was that afforded them by disinfection. It is easy to say that my repetition of Dr. Dzierzon's statement is "quite

faulty," but there still remains the fact that in his case the disease disappeared. Has Mr. Crawshaw ever heard of Professor Metschnikoff and of his researches into the monospora disease of daphnia? Surely the amœboid cells of the bee are not without the functions possessed by those of the water-flea!

With regard to Mr. Crawshaw's desire to have a disease renamed, the following passage occurs in "Cappings of Comb" on page 509 of BRITISH BEE JOURNAL for 1907. It is stated, with reference to natural cures, that "such cases are of the mild type of foul brood, and that the virulent type will never be cured of itself. *May we soon have these two diseases separately named, to the removal of the existing confusion!*" (the italics are mine). We now find that the two diseases were foul brood and black brood. Black brood is renamed "mild foul brood" by Mr. Crawshaw, who then deplores the similarity of the name to foul brood. It does not seem to have occurred to him that mild foul brood *and* black brood are already described in the "Guide Book."

Mr. Crawshaw also criticises my remarks on tested queens (page 129). He says: "Does a tested queen imply a queen of any particular race?" Certainly. In America *the* trade is in home-reared Italians, and the expression applies to that race unless otherwise specified. When stocks are advertised in the B.B.J. it implies stocks of bees, and although they have no right to its exclusive use, we know perfectly well that the word does not refer to *Mathiola incana* or to clergymen's collars. All animals are not asses, but if an ass-merchant announces that he has some fine animals for sale, we should not imagine that he was referring to white mice or guinea-pigs. To my mind, the "whole crux of the argument" is that only a well-drawn-up legal document would be proof against this style of hair-splitting.

Early Swarms.—I see mention is made on page 138 of a swarm having issued from a hive last month at Thorley. This is not many miles away from my part of Herts, and the bees about here have already had a day at *swarming* (?). The fact is that a large quantity of deleterious syrup was consumed by bees here last season, and this caused dysentery during the winter. The first day the temperature was high enough, in cases where all the bees had not already died they left their hive and sought cleaner quarters! If any particulars of the Thorley case reach me, I will chronicle them. Any unjust suspicions that "T. A. R." may entertain of his editor will then be dispelled.—GEO. W. BULLAMORE, Albury, Herts, April 6.

COMB-CAPPINGS FOR SPRING FOOD.

[7080.] I wonder if any readers of the B.B.J., of whom I have, as you know, been one for many years past, have ever tried saving their comb-cappings from year to year for future use? I have done so for a long time past, and in the hope of giving a useful hint to brother bee-keepers in the old country I send my plan of dealing with the same. When extracting I always find that more or less honey comes away with the cappings, and after the liquid honey has been strained off, the cappings are found to contain a fair quantity of crystallised honey. I therefore store them away for winter. Then about the end of March I take down the big tin in which the cappings are stored, and, taking my station near the fire, commence operations thus:—Take a few handfuls of cappings at a time and place them on a dish containing a little water, and, after leaving them a few minutes for the honey to dissolve, mix well, then turn into a cloth of muslin or coarse calico which has been previously damped and placed in a basin; squeeze out the "honey-water" (as I may call it), which will strain through the material without any wax coming through, and repeat the operation till you have enough thin syrup for a feed for the bees. Keep the mixture before the fire till it is just warm enough (not hot) for bee-food. Next take some empty combs and fill them on one side only with the food, and insert a frame so filled in the hive where wanted. I find this method of utilising cappings very economical, and saves buying sugar for feeding, which is a great consideration when you have forty hives to feed in spring. The wax also comes out beautifully clean, ready for melting down for comb-foundation. I may say we are much troubled out here with wax-moth, and have to sulphur our store-combs every ten days.

With regard to the prospect for 1908, the bees up to now are in splendid condition, nearly all my forty hives being very strong, but wherever I see signs of weakness I insert a comb with honey-water as mentioned above, and that seems to build up the stock to the same level as the others after a week or ten days.—HENRY RATHBORNE, Trieste, Austria, March 29.

FRANCO-BRITISH EXHIBITION.

[7081.] It may possess interest for both Editors and readers of the B.B.J. to know that the committee of the Notts Bee-keepers' Association have decided that the summer meeting this year shall be at the above exhibition, instead of, as previously, at some local centre.

Each of our members will be advised of this and of the most economical way of

getting up to town, and in this way it is hoped that a good number will respond, so that we may be well in evidence at the convention. One of our committee has also offered to read a short paper on some subject if it is desired.

I hope other county associations will endeavour to do something on the same lines, in order that British bee-keeping may be well represented, and our French brethren may thus be able to see the interest displayed in the craft on this side the Channel.—GEO. HAYES, Secretary Notts B.K.A., April 11.

SAFE CONVEYANCE OF HONEY.

[7082.] Now that we are launching upon another year's work in connection with bees and honey, it might be of interest to your many readers who send honey away to customers to know of a good, safe, and cheap mode of transit for their produce. During the past season I have sent away a large quantity of honey in comb, glass, and bulk, and had the good fortune to find a firm of carriers who are most obliging and who carry with very little breakage, and what few claims I have had to make both for glass and comb honey have been paid by the carriers. This, I think, is worth knowing, for the various railway companies as a rule do not recognise claims for damage to comb-honey. It appears to my mind that the railway companies do not, as a rule, wish to offend the firm of carriers, so they settle reasonable claims for damage without demur. On the other hand, the chances are if an individual bee-keeper makes a claim on the railway company it would be disputed, and most likely never paid. The firm of carriers I have employed for the past season are Pickford and Co., and, so far as my experience goes, they do the thing right and give every satisfaction.—E. F. DANT, Cambridge.

CARBOLIC ACID FOR BEE-KEEPERS.

[7083.] In answer to the inquiry of your correspondent Bro. Columban (7056, page 127), there are a variety of carbolic acids on the market which contain more or less impurities. The purest carbolic acid (phenol) is in the form of white crystals. The Carbolic Acid Liquefactum of the British Pharmacopœia is the above with 10 per cent. water added; Calvert's No. 5 contains some of the heavier oils; while lower and cheaper qualities, known as crude carbolic acid, &c., contain a large percentage of heavy coal-tar oil. Should Bro. Columban desire further information as to distillation, &c., I shall be glad to reply.—L. BOWMAN, Workington.

CHOOSING BEE-LOCATIONS.

[7084.] If your correspondent Mr. Bradfield (7072, page 144) will communicate with me through the B.B.J. office, and let me know exactly where he intends residing, I will give him all the information I can as to a good location for his bees. There are quite a number of good districts both west and north of Glasgow, and the best place all depends on where he is going to live considered with regard to travelling facilities. Like Mr. Bradfield, I came up here from Gloucestershire about five years ago, and, living as I do right in the city of Glasgow, I have not up to the present commenced to keep bees here. I have, however, decided to make a fresh start this year, owing to the fact that I have been able to make arrangements to live in the country. The choice of a suitable district led me to explore the neighbourhood of Glasgow pretty thoroughly in nearly every direction. I send name, &c.—C. A. A., Glasgow, April 12.

SHEEP AND BEES.

[7085.] Referring to your request for the experience of readers with regard to sheep pasturing near hives (page 139), I might say, while I have never willingly allowed sheep to enter either of my apiaries, I have had them get in and do a lot of damage by knocking over the hives. I remember one night having five hives tumbled over, and, as it rained all night, the five stocks were practically destroyed. I would therefore not advise your correspondent to allow sheep to graze among his bee-hives!—W. GEE, Expert, Hertford, Ware, and District B.K.A.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of March, 1908, was £3,053.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

Queries and Replies.

[3683.] *Preparing Ground for Bee-forage—Snowy Mespilus.*—As a regular reader of your useful and interesting journal, may I beg your advice on the following matters? 1. Is it too late in the year to strew lime on ground immediately in front of hives, prior to sowing clover and mignonette for bee-forage, and would the bees be likely to take any harm therefrom? 2. What is the botanical name for Snowy Mespilus (mentioned in

the "Guide Book")? Is it a *Deutzia*, and if so, which? There are, I believe, several varieties. I have two shrubs in my garden which I believe to be *Deutzias;* they appear to be most attractive to bees when in flower, as the blossoms were covered with bees for several days last June or July.—(Mrs.) A. S., Norwich, March 28

Reply.—1. Bees will take no harm from strewing lime on ground prior to sowing clover. 2. The botanical name of Snowy Mespilus is *Amelanchier canadensis* (see page 159 of "Guide Book"). *Is* is not a *Deutzia*.

[3684.] *Working for Honey and for Increase.*—I commenced with one stock of bees last season. The hive did not swarm, but I secured about 13 lb. of surplus honey. During the winter I have made a couple of hives myself, and this year I should like to increase my apiary at as small a cost as may be. I do not wish to touch the stock I at present have (which now covers six frames), as I want the bees to confine their energies to honey-gathering. 1. How would you advise me to proceed? Then with regard to increase. How would it be if I were to purchase two early swarms, supply each with a few built-out frames of comb, and allow them to breed up for two or three weeks; then divide each swarm into two, supplying the queenless portions with a queen-cell and brood? 2. If I were to do this, would the two colonies headed by the old queens be strong enough to winter, and would the colonies headed by young queens make one good stock for wintering if united? I should use the spare queen for re-queening my present stock.—H. F. C. Wilson, St. Leonards.

Reply.—1 and 2. It would be true economy for you to invest in a copy of the "Guide Book" rather than have to seek for information in our query and reply columns. You would find therein full directions for getting through such operations as working for either increase or for surplus honey on the most tried and safest methods, without being compelled to suggest means of your own, and ask us to judge of their chance of realising success. So much depends on the season and the ability of the bee-keeper himself that the chances of success are necessarily uncertain.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Carbohydrates (page 117).—I am none the less grateful to Mr. Fisher for his cheerfully-given lesson because I saw fit to comment upon it. So let him be thanked, and at peace. But I do not know that I was seriously at issue with him even in joke! Now he seems to me to be a little wild, if not with me, at least in his statements. For I have not misquoted him—so far at least! If I were to quote him I would say: "Honey is a carbohydrate" (page 117). "Before carbohydrates can become of use to the body they have to be acted upon by the digestive juices, which convert them into a peculiar form of sugar, which in its chemical composition cannot be distinguished from honey" (page 64). But honey is already a carbohydrate, and surely he would make an exception in the case of a carbohydrate which is already that which it should become!

Mr. Fisher says three times that fat is not a carbohydrate, perhaps in order to make sure that two negatives should not cancel out! But I did not say it was, and I am sorry if loose wording implied it. He fails, however, to explain exactly what constitutes a carbohydrate, so perhaps I may add to his explanation that these substances are carbon compounds, which have their other elements, viz., hydrogen and oxygen, in the proportion of water, that is, as two to one, or, of course, multiples of the ratio. So that, very strictly speaking, the fats, although in the same series as the sugars, are not carbohydrates. Mr. Fisher's instance of farmyard manure is also a little bit wild. His mind has, so to speak, run amuck! Analysis would *not* show this substance to be a suitable food for man or beast.

I think he overrates the bee's power of discussing formulæ, otherwise she might easily be deceived by the instance I gave of cane-sugar and acetic acid. Thus in parts per cent.: Cane sugar equals C42, H6.4, O51.6, and acetic acid equals C40, H6.6, O53.4, so that the bee might easily suffer from the muddle-headedness which Mr. Fisher fears. I am, however, glad to know that he has cream in his tea! So do I! Sometimes! But I would recommend that other lump of sugar!

Bee-candy (page 117).—There seems no reason for all the difficulty in this matter. If the gropers in the dark will buy a simple thermometer of sufficient range for a few shillings, and then boil this compound to 238 deg. Fahr., some of their troubles will be over. Simply add an excess of water, and boil the mixture down to this temperature, then cool it rapidly to ensure fine crystallisation.

Isle of Wight Disease (page 119).—Is it possible that in such a district as this a weakened vitality might be due to in-breeding? It hardly seems so, but the question has struck me as worth consideration. The fact that adult bees suffer most after the winter rest, after swarming, or perhaps when their vitality is further lowered by excessive work; the fact that imported stocks and driven bees

do not seem to have suffered like the native-born bees; and the fact that the disease, or the constitutional disability to resist it, seems to have grown with succeeding seasons, lend colour to this perhaps far-fetched explanation.

Franco-British Conference (page 121).—In view of the use of the two languages at the conference, may I suggest that some kind friend provide us with a fairly complete English-French glossary of bee-keeping terms? I am sure that this would be a great help even to those who speak French fairly, and might even be of interest to our French friends at the conference.

Virulent Foul Brood (page 125).—Mr. Avery has misread me to the effect that bees will remove the dried-down scale. The "Capping" on page 109 clearly does not intend this. The note was due to a speculation as to their physical power of attacking the material of the scale. Certainly there must be a period between the death of the larva and the drying of the scale when it is still possible to the bees to remove the remains. Why they do not do so I do not know. But others have reported that a removal of the queen encourages them to this house-cleaning during the interregnum. I hope I am not traversing the opinion I still hold that bees once thus diseased are always diseased.

Wasps (page 125).—I do not know how we are quite sure that wasps are immune. I doubt if they are. Certainly the fact that "they feed through the mouth" does not ensure this, for the bee-larva is infected through its digestive system. I will feed some wasps on infected food, and see the result.

A Matter of Continence (page 127).—Is Mr. Bullamore right in stating that "European foul brood" was discovered in America? I venture to think not. Our American friends are quite clear in stating that they refer to *Bacillus alvei* by this name, and this bacillus was discovered by Cheshire and Cheyne in England. Certainly it would be well for us, the rank and file, to avoid taking further part in the question of title until such time as the matter is definitely agreed upon by the scientists of both continents. Let us wait patiently.

Beeswax and Greed (page 128).—I seem to remember this illustration as an American, not a French, fraud. Truly, the nails are French nails, but French polish would certainly never allow of the use of such ingredients.

Cappings of Comb (page 134). — "D. M. M." has strewn these on the floorboard with a ruthless hand! It has since struck me that perhaps the combs might have been damaged by mice, and though this did not strike me in my cursory examination, and I doubt if they could obtain access, I will investigate further. The bees certainly did not remove the whole of the débris, and I have often found quite a heap of granules, either of honey or of badly-made candy, underneath a cluster.

Sharp Words (page 134).—Surely the "thin edge of nothing," if carefully sharpened, would find its way behind something, even if that were close to the truth, and if it did not leave much of a gap to show its passage, it would not perhaps do much harm. Undoubtedly there is often a very fine dividing-line between sense and nonsense. I am sorry not to have made it plainer!

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

T. S. Mead and Co. (Manchester).—*Diagrams on Bee-keeping.*—The diagrams you refer to were published some years ago by the British Bee-keepers' Association. They are entitled "The Anatomy and Physiology of the Honey-Bee, and its Relation to Flowering Plants," by F. R. Cheshire. It is just possible that a copy may be had on application to Mr. E. H. Young, Secretary of the Association, 12, Hanover Square, London, W., but we fear they are out of print.

H. B. K. (Cheshire).—*Bees Transferring Themselves to Frame-hives.*—The failure of the bees to occupy the lower hive as a brood-nest last year would be due to the bad honey-season, owing to which no honey was stored below, and the bees remained in the skep for warmth. There is, however, no reason why they should not take possession of the built-out combs in the frame-hive this year as soon as the queen needs room below for egg-laying, and when they do this the skep may either be taken away or left on for storing honey in, to be afterwards removed by the extractor.

Geo. T. Oates (Gosport).—*Buying Bees Without Inspection.*—The seller must surely not have been unaware that the stock of bees were dead when sold, to have been in the condition stated when examined. It is never safe for one who

knows nothing about bees to purchase hives without examination. As you desire to study the subject, you should first procure a copy of the "Guide Book" and read it carefully. You would then be in a position to make a safe start.

DOUBTFUL (Surrey).—*Spring Bee-work.*—1. April is the month in which to transfer bees to clean hives, and add to coverings in order to promote breeding. 2. You did right in uncapping a few inches of sealed food at this season. The chapter on "General Management" in new edition of "Guide Book" (pages 198 to 218) gives full instructions for work in spring, summer, autumn, and winter.

NOVICE (Bridge of Allan, N.B.).—*Bees Fighting among Themselves.*—Though this happens at times, it is a very rare occurrence, and may be accounted for in several ways. Sometimes it is brought about by giving honey in bulk taken from another stock. In your case it seems probable that the two lots of bees had not been thoroughly mixed up when united at the end of last year, or possibly there may have been two queens in the hive. We should administer a little smoke whenever fighting is seen, and leave time to do the rest in removing the trouble.

F. W. HUNT (Devon).—*Naphthol Beta Solution for Bee-food.*—The sample sent is evidently not prepared from naphthol beta of the right quality, or it would neither be brown in colour nor have the strong odour of phenol it has. Your chemist may not be much to blame for this, not being cognisant of the nature of Dr. Lortet's formula for curing foul brood.

X. Y. Z. (Loughborough).—*Bees Dying in Damp Hives.*—You are not far wrong in attributing the death of a whole seam of bees to the insanitary condition of the hive during the winter. The effect of your effort to remedy this is shown in the rapid production of brood since the bees were made comfortable on a few clean combs and warm with extra coverings. Your care now must be to see that they do not run short of good food; and as the bees increase in number they may have full sheets of foundation given them by degrees till the full number is reached.

(MISS) G. WILLAN (Worcester).—*Built-out Combs for Hiving Swarms On.*—The partly built-out combs in frame-hive will do for hiving swarms on if the stock in skep (placed above the frame-hive for transferring themselves below) are free from disease. We have no means of judging whether this was so or not, there not being any trace of brood in comb sent. You might spray the combs with soluble phenyle before using as a precaution against risk.

C. L. (Oxon).—*Candy-making.*—Sample is not sufficiently boiled, and in consequence will become as hard as stone after the moisture has evaporated.

A. M. W. (Ellesmere). — *Preventing Swarming.*—You cannot give a box of shallow-frames below the brood-nest unless the hive is specially adapted for giving room below. But why not follow the plan adopted by nearly all experienced bee-keepers—viz., giving room in advance? If the bees are induced to work in surplus-chambers early in the season, they will not be inclined to swarm with proper management. Very few who have large apiaries give room below to prevent swarming.

(MISS) G. M. S. (Winchester).—*Keeping Bees High Above Roadsides.*—So far as we can judge from sketch sent, there would be no risk of damage to passers along the road referred to. The height above the road of the ground on which the hives will stand will remove all danger.

P. P. (Putney).—*Suspected Queenlessness.*—If the sealed food in combs has been uncapped and carried off, while there is no trace of brood in the hive, it would not only be suggestive of queenlessness, but make it probable that the food has been cleared out by robber-bees.

Suspected Combs.

M. L. (Emsworth).—Comb is quite healthy, in good condition, and fit for use this year.

CONSTANT READER (Winton).—The comb is very old, and cappings of cells look suspicious; but the brood has dried up and disappeared long ago. We should remove all such combs as that sent and destroy them; but if bees are strong there is no need to do the same to combs being bred in and used for honey. If diseased, it is not caused by *Bacillus alvei.*

J. E. O. (Laxey, I.O.M.).—Dead bees are useless in diagnosing disease. The few bees sent appear to have become wet from some cause, and as the queen was among them, if any are left alive they will be useless.

NOVICE (Wilts).—No. 1 hive would have been very dear at a gift. The comb is rotten with foul brood, and should be promptly burnt with all its contents. No. 2 has a drone-breeding queen, and shows signs of disease; therefore it also is worse than valueless.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

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THE FOLLOWING are offered in exchange for Swarms: Hearson 60-egg Incubator, pedigree Bull Bitch, Microscope, Turkey Eggs, also bound volumes "Bee Journal."—HERROD, Luton. f 43

FOR SALE, Taylor's Guinea "W. B. C." Hive, complete with two racks of Sections, Frames fitted with Foundation, never used; also about 2 lb. Brood Foundation, Smoker, three Feeders, and 100 Sections, suit beginner, 27s. lot.—TANKARD, Kerry-lane, Horsforth, Leeds. f 46

WANTED, 500 Swarms, before July 1.—Numbers, price, and particulars to HERROD AND STEWART, Luton. f 42

QUEENS by return of post, reared 1907, healthy, 5s. each.—O. KNIGHT, Epney, Stonehouse, Glos. f 45

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SECONDHAND HIVES, various, good makes, from 5s. each. List on application. Well painted, guaranteed healthy.—CHARTER, Tattingstone, Ipswich. f 51

GRAY'S SHOW JAR, fine sample of British manufacture, fulfilling all requirements of the Show Bench, 3s. dozen, free on rail; sample, 6d., post free.—THE WHITE APIARY, Long Eaton. e 84

GOOD STOCKS, in Skeps, 1907 Queens, guaranteed healthy, 12s. 6d., 13s. 6d. — W. WOODS, Normandy, Guildford. f 52

WANTED, a few Stocks of Bees, must be absolutely free from any trace of Foul Brood.—Price and particulars, R. STEELE, Mansecliffe, Newburgh, Fife.

DEVICE FOR REPAIRING OR DEEPENING COMBS, sample, with directions, P.O. 7d.—A. SIMPSON, Maghull, Liverpool. f 53

HERBACEOUS, Bloom 1908. — I'm amongst them. Will send 12 prize clumps, dissimilar, for 3s., carriage paid, or exchange Histories (English), Macaulay's Essays, Bacon's Essays, &c., or Bee Appliances.—HETHERINGTON, 88, Main Street, Brampton, Cumberland. f 49

27 SKEPS BEES FOR SALE, guaranteed healthy, new Skeps, 10s. 6d. each.—POSTMASTER, Haconby, Bourne. f 44

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CLOVER HONEY, good quality, 1 lb. Screw-cap Jars, 77s. gross, 21s. ¼ gross; ½ lb. ditto, 45s. gross, 13s. ¼ gross; Honey, in bulk, 48s. cwt.; samples, carriage paid, 8d. — Further prices and particulars from TURNER BROS., Sandpit Poultry Farm, Croydon. e 86

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The

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &C., AND W. BROUGHTON CARR.

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

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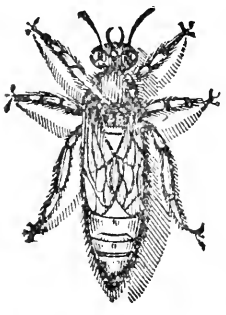

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held at 105, Jermyn Street, S.W., on Thursday, the 16th inst., Mr. W. F. Reid occupying the chair. There were also present Rev. H. R. N. Ellison, Messrs. F. J. Bernau, W. Broughton Carr, E. Garcke, J. B. Lamb, G. H. Skevington, E. D. Till, and the secretary.

Apologies for enforced absence were read from Miss Gayton, Messrs. T. W. Cowan, R. T. Andrews, T. Bevan, W. H. Harris, H. Jonas, A. G. Pugh, E. Walker, and F. B. White.

The minutes of the previous meeting were read and confirmed. The following new members were elected, viz., Mr. H. L. Attridge, Beecroft, Oldfield Road, Sea Point, near Cape Town, South Africa; Bucks County Bee-keepers' Association (hon. sec., Miss E. Scott-Walker, 5, High Street, Slough); Miss Dunn, Riverside, Ware, Herts; Mr. Wm. Gee, Ware Road, Hertford; Mr. Francis M. Gowan, Mount Grace, Lilliput, Parkstone, Dorset; Mr. W. E. Hickin, 57, Grange Road West, Birkenhead; Mr. O. Von Saal, Stevenage Lodge, Stevenage, Herts; Suffolk Bee-keepers' Association (hon. sec., Mr. A. W. Salmon, Cashfield House, Sewardstone, Chingford).

The Finance Committee's report was presented by Mr. E. D. Till, and gave particulars of receipts and expenditure to date. It was duly approved. The following gentlemen were elected as a Finance Committee for the ensuing year:—Mr. T. W. Cowan, Mr. W. F. Reid, Mr. T. Bevan, Mr. W. Broughton Carr, Rev. H. R. N. Ellison, Dr. T. S. Elliot, Mr. E. Garcke, Mr. H. Jonas, Mr. E. D. Till, and Mr. E. Walker.

It was resolved to offer medals and certificates of merit for competition at the Confectioners' and Grocers' Exhibitions as in recent years, and the judges were nominated for approval by the show authorities, as also for the Dairy Show in October.

Mr. Lamb gave a report upon the work of the Special Committee *re* the proposed Congress of Bee-keepers at the Franco-British Exhibition, Mr. Reid adding that Lord Avebury had kindly promised to preside.

Mr. Reid was appointed to give evidence before a Joint Committee of both Houses of Parliament on the Pharmacy Bill in favour of the removal of restrictions on the sale of poisons used in agriculture.

The next meeting of the Council will be held on Thursday, May 21.

LANCASHIRE B.K.A.

ANNUAL MEETING.

The annual general meeting of the above association was held at the Scientific Society's Rooms, Preston, on Saturday afternoon, March 21.

Mrs. T. C. Armitage, The Oaks, Chorley, presided over a good attendance, which included most of the officers of the association and several ladies. The hon. secretary presented the ninth annual report and balance-sheet, which showed that, whilst there had been twelve resignations, forty-two new members were enrolled, the total now being 399. The revenue account shows an income over expenditure of £2 12s., the balance in hand being £15. The report and balance-sheet were adopted. The expert (Mr. J. Gray) visited 410 members and other bee-keepers in the county, and found twenty-six cases of foul brood, fifty-two stocks being affected.

The County Council granted £15 to the association in aid of lectures, and demonstrations were given under that grant in different parts of the county, and were, on the whole, a great success. Many other lectures and demonstrations were given by the association's lecturers. The county honey show at Lancaster and that of the Cartmel Agricultural Society at Cartmel were held under the association's auspices. The decision of the County Council to dispense with the bee-tent and usual demonstrations in connection with the county show is greatly deplored, for the lectures at the show are known to have been of great benefit to the cause of bee-keeping in the county, and their discontinuance, even for one year, is very regrettable. It is hoped that the County Council will revert to the course adopted for so many years.

According to the report, the past season was probably the worst that any bee-keeper in the county has ever experienced, very few indeed having secured any surplus honey whatever, and the majority having had to continue feeding their stocks right through the honey-season to prevent them perishing of hunger. It is to be feared that where liberal autumn feeding has not taken place many stocks have succumbed during the winter.

The Right Hon. Lord Balcarres was re-elected president and cordially thanked for the letter in which he expressed the great interest he took in the welfare of the society.

The retiring committee was re-elected, as were also Mr. Wood, hon. auditor, Mr. Taylor, hon. treasurer and librarian, and Mr. Bold, hon. secretary, a special vote of thanks being passed to the last-named gentleman for his untiring exertions as secretary; also to Dr. Anderton, of Chorley, for his generous gifts of prizes and

his practical interest in the welfare of the association. Cordial recognition was also made of the active work of Miss S. Wilson, Lancaster, who has done so much as secretary for the district around Grange, Carnforth, and Cartmel. A vote of thanks was also passed to the Scientific Society for the use of their rooms. This concluded the business portion of the meeting.

COTTAGER MEMBERS' HONEY COMPETITION.

This was held in the hall, the total entries being forty, and the following awards were made:—

Two 1-lb. Jars of Light Extracted Honey.—1, Jos. Whiteside, Hesketh Bank; 2, W. Lowe, Rainhill; 3, Mrs. Lloyd, Lancaster; 4, Wm. Lloyd, Lancaster.

Two 1-lb. Jars Medium-coloured Extracted Honey.—1, R. Smith, Howick; 2, T. Ormesher, Westhead.

Two 1-lb. Jars Granulated Honey.—1, H. Fenney, St. Helens; 2, A. W. Grant, Hayton.

Two 1-lb. Jars Heather Honey.—3, R. Simpson, Burnley.

Two 1-lb. Sections.—2, W. Lowe; 3, Dawson Bros.

Beeswax.—1, R. Smith, Howick; 2, H. Fenney, St. Helens; 3, P. M. Ralph, Settle.

At 6.30 p.m. the members re-assembled in good numbers in the same hall, when a most interesting lecture (illustrated by diagrams and lantern-slides) was delivered by Mr. Leonard S. Crawshaw, of Ilkley, Yorks, on "The Queen-bee." The lantern slides were shown by Mr. W. H. Heathcote, secretary of the Preston Scientific Society. The lecture was listened to with great attention, and the lecturer warmly thanked on its conclusion.—JAS. N. BOLD, hon. sec., Almond's Green, West Derby.

WARWICKSHIRE B.K.A.

ANNUAL MEETING.

A letter from a lady suffragist, which caused considerable amusement, was read at the annual meeting of the Warwickshire Bee-keepers' Association, held at the Grand Hotel, Birmingham, on the 26th ult., under the chairmanship of the Rector of Solihull, the Rev. T. B. Harvey Brooks. The hon. secretary of the association, Mr. J. N. Bower, of Knowle, presented the letter, which stated that the writer was sorry to have to resign her membership of the association, "but," she added, "until women have their vote I feel it my duty to divert my subscription and support to this fundamentally necessary and important cause." ("Hear, hear," and laughter.)

Mr. Bower said he was staggered when he received the letter, and began to look upon their society as fast tottering to destruction; but he had since grown calm. The whole thing was so droll that he was quite sure all the ladies would not follow suit and withdraw their subscriptions. They were such a great help to the society; in fact, he might compare them to the inmates of the bee-hive. They were the workers, and many amongst them were queens. If the bees could only do so, they would surely give ladies the vote, because ladies did so much for them and saved so many of them from the sulphur-pit. (Laughter.)

On the motion of the Chairman, the twenty-eighth annual report and statement of accounts was unanimously adopted. The continued progress of the association was recorded, but the last year was stated to have been most disastrous to bee-keepers throughout England. Such a season had not been experienced for forty years. Notwithstanding this, a large number of members had been enrolled, and the accounts showed a balance in hand on the year's working of £14 15s., the expenditure having been £112 5s. and the income £127. The failure of the honey harvest last year compelled the committee to abandon the show which was to have been held in conjunction with the Warwickshire Agricultural Society at Rugby, but arrangements were being made to hold a show in connection with the Solihull meeting of the society in August next.

Sir P. Albert Muntz, Bart., M.P., was re-elected president of the association, and other reappointments were made, including those of Mr. Bower as hon. secretary, Mr. J. R. Ingerthorp, of Knowle, as assistant secretary, and Messrs. G. Franklin and E. Franklin as expert and assistant expert respectively.

At the close of the business Mr. G. Franklin delivered an interesting lecture on "Bee-keeping for Pleasure and Profit."—*(Communicated.)*

LEICESTERSHIRE B.K.A.

ANNUAL MEETING.

The twenty-sixth annual meeting of this association was held on March 14 at the Higheross Coffee House, Leicester. In the absence of the president (Lady Levy) Miss V. R. Levy presided. Amongst those present were Messrs. Bedingfield, Meadows, Shenton, Fewkes, Cotton, Pickersgill, Bradbury, Jesson, Thompson, Crow, Payne, and J. Waterfield, jun. (hon. secretary). Among the visitors were Messrs. Pugh and Harrison (Notts), G. Franklin (Warwickshire), and W. Henson (Derbyshire).

The annual report, which was adopted, stated that it was doubtful if anyone amongst the present generation of bee-

keepers had ever experienced a season so disastrous as that of 1907. Those engaged in the industry, however, had not permitted unavoidable reverses to damp their enthusiasm. Over fifty new members had been enrolled, making a total of 303, as compared with 297 the previous year.

Lady Levy was re-elected president, and the vice-presidents were reappointed. Mr. Edwin Roper was elected chairman, Mr. Payne vice-chairman, Mr. Bedingfield treasurer, Mr. Underwood auditor, and Mr. J. Waterfield, jun., secretary. The council were re-elected *en bloc*. Messrs. Meadows and Roper were chosen representatives to the British Bee-keepers' Association, the district secretaries were re-elected, and Mr. Pickersgill filled a vacancy. Mr. Lawrence was appointed for the Hugglescote district.

A resolution of the council was confirmed that the term "Rutland" be added to the name of the association.

After concluding the business portion of the proceedings, prizes in the competitions arranged by the council were awarded as follows:—Best single 1-lb. jar of granulated honey of any year: 1, Mrs. Redshaw; 2, Mr. J. Shenton; 3, Mr. G. O. Nicholson. Best single 1-lb. jar of liquid honey of any year: 1, J. Waterfield; 2, J. S. Shenton; 3, J. W. Smith.

The usual prize drawings then took place, and subsequently the members and friends, numbering about 120, partook of a substantial meat tea.

In the evening lectures on "Bee-keeping for Pleasure and Profit" and "A Hive of Bees and Some Commonplace Remarks" were given by Mr. G. Franklin and Mr. W. K. Bedingfield respectively. Novelties were introduced by Mr. W. P. Meadows, who also gave some hints on bee-appliance dealing. Musical items were contributed by Miss E. M. Ward and friends.—J. WATERFIELD, JUN., Secretary.

KENT BEE-KEEPERS' ASSOCIATION.

A further meeting of the Provisional Council was held in London on Thursday, April 16, to consider what steps should be taken to develop and place this association on a useful and profitable basis.

The members present were Mr. E. D. Till (Eynsford), Rev. H. R. N. Ellison (Hothfield), Messrs. F. H. Oliver and A. Schofield (Beckenham), E. Longhurst (Longfield), and H. Leeds (Lee, S.E.). Letters and telegrams regretting inability to be present were received from the Revs. Marcus B. Osmaston (Goodnestone) and C. Alder Stubbs (Edenbridge), Mr. G. H. Sander (Bexley), Mr. W. Russell (Gravesend), and General Sir Stanley Edwardes (Hawkhurst).

The appointment of a secretary was discussed at great length, with the result that the Rev. H. R. N. Ellison offered to act as secretary *pro tem.*, and outlined his proposed scheme of work, which included the establishment of local clubs at convenient centres, and inviting the co-operation of zealous workers as hon. secretaries in their respective districts. Mr. Ellison's generous offer was accepted *nem. con.*

Other suggestions which met with approval were (*a*) the necessity of keeping in touch with members by the dissemination of literature; (*b*) monthly meetings during the winter for discussion and the interchange of ideas; (*c*) subscription to ordinary members 5s., cottagers 2s. 6d.; (*d*) subscribers of 1 guinea can nominate two cottagers as full members for the year covered by the subscription; (*e*) that members of the Council endeavour to obtain hon. secretaries and members in their own districts, those present pledging themselves to this effect. This concluded the proceedings, the meeting having lasted two hours.

Mr. Ellison will be pleased to welcome offers of assistance on the lines indicated above. All letters should be addressed to Hothfield Rectory, Ashford.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[7086.] The cold weather of which I wrote on the 6th inst. is still with us on the 20th. The news in the daily papers of the exodus from London to the seaside, and the anticipation of a glorious springtime in the country, reads curiously in view of the climatic conditions we country dwellers are experiencing day after day. The bare facts we have to face make it clear that a fortnight more of cold weather has not added much to the growth of vegetation in the country. Though we are more than half through April, the fields are still as barren as I have seen them in February some years. Easter Day was cold, dull, and cheerless, interspersed with driving snowstorms.

On Easter Monday we had a sharp frost (with ice ⅛ in. or more thick), followed during the day by cold, sleety snowstorms. As for the poor bees—well, the brood-nests may be extending where hives are warmly packed, but, judging from outside appearances, I do not think that stocks are so strong in bees as they were a month ago. I fear we shall have no May swarms in our district this year. I am still supplying artificial pollen and feeding the bees with thick syrup, while providing a plentiful supply of water in a sheltered corner of the garden. If we can tide over the present untoward spell of bad weather, the promise all around of bee-forage ready to burst into bloom will sustain our hopes for better things ahead.

Referring to our friend "D. M. M.'s" mention of the buttercup in his list of pollen-bearing flowers, I may say in all my experience I have never seen a bee on a buttercup yet. It would be interesting to hear what others say of this flower as a pollen-producer. I am glad to observe that the same writer endorses my oft-reiterated advice to beginners in bee-keeping that they should start with prime swarms. I do this not because I happen to have swarms for sale, but from the conviction, shared by all reliable authorities (including the author of the "Guide Book," *vide* page 145), that it is far safer than purchasing established stocks, especially from a long distance. With a prime natural swarm early in June (fed for a few days after hiving) there is every chance of a good start in possessing—in the course of a few weeks—an established stock of healthy bees, which may give better results than a stock two or three years old.

In view of the long time that must often elapse (sometimes three or four days) before a swarm sent, say, 250 or 300 miles by rail is delivered, the first thing to do on arrival should be to give the bees some food in the swarm-box; then, when hived, a bottle of syrup should be given, and unless honey is plentiful outside, the feeding should continue each night for a week. Allowance should always be made for a certain loss of weight in a swarm delayed several days before hiving, as the bees will have consumed the food in their sacs when weighed before despatching. In other words, if the purchaser who buys a swarm on the spot is perfectly content to pay for it by weight as delivered, the buyer at a distance should weigh his purchase after the bees have been fed up into the condition they were in when the swarm came off. But grumblers won't see it in this light, somehow, but want the honey carried off from the parent-hive thrown in for nothing.—W. WOODLEY, Beedon, Newbury.

QUEEN-MATING.

[7087.] The following incident may be interesting to your readers:—On going into my garden last summer the air was literally alive with drones; they were chasing one another and flying about all round me. I observed a bee alight upon a pear-tree, but too high up to see what it was. Whilst pulling down the bough it took flight. A few minutes afterwards the drones again gathered thickly around the place where I was standing and drew my attention to the other side of the pear-tree. There, on looking closely, I observed a queen-bee sitting upon a leaf with several worker-bees around her. One or two drones came and hovered close to her, and I observed the worker-bees drive them away, as I described in a previous letter I sent to you. After a short time the queen took flight and disappeared, but I saw the drones again gathering at a little distance, and on going to the spot found several worker-bees upon a broad-bean leaf. It was evident that the queen had settled here again, for the drones were hovering in the air close to the leaf. This incident has confirmed me in the thought I have previously expressed, which is, that when a young queen flies out for mating she is attended by a number of bees from her own hive, a sort of bodyguard to protect her. I wonder whether, after all, the mating takes place high in the air as is generally supposed. With queen-wasps I have noticed that they appear to seek out some sunny bush or low tree to sun themselves in the autumn, and you may see the male wasps hunting backwards and forwards searching for them. Is it not possible that the same thing takes place with queen-bees?

March has been a cold, wet month here, and the bees have scarcely had a flight. Only on March 23 did the thermometer rise as high as 53 deg. Fahr. in the shade. On that day bees worked busily on the crocuses and the few willows in blossom. The heavy rain later stopped all bee-work for the time.

I noticed on April 3 that my bees were busy carrying in pollen to all my ten hives, so they will probably be safe, if April is fine. The celandine will soon be in flower, and it yields pollen plentifully.

The Law of Parthenogenesis.—I introduced a number of young queens bred from Mr. Sladen's "golden strains," but only one out of seven seemed to have mated with a yellow drone; in this hive, however, both drones and workers were as golden as those of the original stock, while the drones of the other six hives were as dark as the workers. I wonder how Mr. Sladen would account for this? Personally, I should have expected them to be

"golden"-coloured, according to the principle of parthenogenesis.

I wonder whether other bee-keepers found their bees as vicious as mine were last summer? I never had such an experience of trouble in that line after keeping bees for some fifty years. Last summer I could not go within many yards of some of the hives without being attacked immediately.

Twisted Frames.—I always glue my brood-frames together. This keeps them firm and square, while a wire-nail driven through the top of the frame holds the foundation in like a vice, and if the nail is a little longer than the breadth of the top-bar it can be easily knocked back and withdrawn with a pair of pincers.

The heather is only about a mile from my apiary, and the bees not only get honey from the common ling, but also pollen, which is of a grey colour. I notice that their pollen-baskets are only half loaded up when returning home. It would appear as if they hurry home when the honey-sac is full up, content with a half-load of pollen.

"*Chapman Honey-plant.*"—With me this plant seems to be a biennial, and is much too tall and straggling for my taste. I have a thistle of the same family which is a perennial, and only grows to about 4 ft. in height. The flower-head is slightly larger than the "Chapman," and I have it in blue as well as white, which is another advantage. It is covered with bees and drone-flies in the autumn.

Queen-wasps.—I notice one of your correspondents mentions seeing queen-wasps on the figwort. This wasp is, I believe, perfectly harmless, and lives, as far as I have observed, upon honey. The rings on its body are far more distinctly marked, black and light-orange colour, than are the markings of the two species of wasps that attack bees—*Vespa germanica* and *Vespa vulgaris*. The hornet, also, is an inveterate enemy to bees where it is found, but I am not aware that we have the hornet in Scotland. I have seen them in the South catching bees on the wing just as a hawk would do, then cutting off their heads and legs as a wasp would a fly before carrying them off to their nest. Where hornets abound they must be most destructive to bees, and yet I well remember that in the forests of Fontainebleau bees and hornets abounded in the old hollow oaks.—HUMBLE BEE, Allanvale, April 7.

FOUL BROOD.

HOW I KEEP IT AT BAY.

[7088.] It appears to me that there is only one variety of this disease. There may be climates in which it thrives better than elsewhere, but, so far as this kingdom is concerned, the very virulent form of the disease is, in my opinion, simply the result of allowing it to continue unchecked for a couple of seasons in a colony. At any rate, I have never seen it except in the apiaries of persons who did nothing to check the disease. A violent outbreak might no doubt occur in a well-ordered apiary through some overwhelming invasion of spores, but in no instance have I seen a bad case develop in a single season. If a bee-keeper allows the disease to continue unchecked till the remains of the dead larvæ have reached the dry or scale stage, he must look forward to having it among his bees in a virulent form later on. Those who are unfortunately located in foul-broody districts will lose nothing whatever by the annual renewal of brood-combs, and by adopting this method of checking the disease they need never fear any violent development of it, seeing that no spores will remain in the hive or float about in the air. Care must also be taken during the season to disinfect any odd cells that may be observed showing signs of disease. In short, care must be taken to prevent the formation of spores. Driven or "shook" bees should be fed on medicated syrup; and it is unnecessary to starve such bees, unless they come from hives that are very badly diseased.

A stock of bees will of themselves clean out cells of wet foul brood if the combs containing it are put beyond reach of the queen, or if made queenless, even when no disinfectants are put in the cells. Whether they do it so thoroughly that no infection is left it is difficult to say. Some allege that the germs perish when a certain temperature is attained in the hive if there be no exposed grubs to develop in. Without being able to say if this be true, I most strongly advise bee-keepers to avoid the spore stage. Having managed as many as thirty-six stocks in my limited spare time in an infected district, I have (except for a little more labour) done as well as if the disease never existed. This shows that, however undesirable it may be, we need not succumb to its ravages. If none but the right class of men were engaged in the bee-industry we should soon be clear of it, but, unfortunately, there are many who "keep bees," but hardly put any labour into the concern and still less intelligence. Then with regard to legislation. We must not penalise the industrious man by destroying his crop of from 50 lb. to 120 lb. of honey from his colony because a few diseased cells may be found in a hive. I mean to say that foul brood can be stamped out without resorting to such heroic measures. Destroy badly-diseased combs utterly by all means, but destruction of wax would be criminal where the

disease is slight and the combs new and rich in first-class wax.

The bees which I "shook" direct on to foundation last autumn bred well, and not a single trace of disease appeared. They were fed on medicated syrup, and when examined on a suitable day in February the bees were in perfect condition, and I hope for a good season. To get the bees of my hives off the combs and feed them up for winter did not cost me a single penny. I got enough for the wax to pay all expenses, and about 2s. per hive over. If all our bee-keepers would do likewise there would be no foul brood. Finally, let me say my statements with regard to the condition of my bees will be confirmed if necessary by a friend who was with me when the combs were examined last month.

The gist of it all is, never allow the spore stage to be reached; had I done so, my experience would be different.—W. J. Farmer, Redruth.

EMBEDDING WIRES IN FOUNDATION

[7089.] From time to time this matter crops up in the B.B.J., and leads to the conclusion that a really satisfactory method is still wanted. I therefore venture to explain my method, which in my opinion is the only really satisfactory one in existence, though, unfortunately, it is not within the reach of everyone. Still, motoring has made it possible for many more than would otherwise have been the case. The method is simply to heat the wire by an electric current obtained from an ordinary four-volt accumulator as used on motors and motor-bicycles. The only caution required is to use a fine wire, as a heavy bouquet wire takes too much current to heat it. I do not know what the gauge number of it is, but it measures .0085 in. (I enclose a sample.) It is a treat to use this plan. The wire heats and sinks into the foundation, which closes over it, and the cells are not in any way distorted, while you have the wire embedded in the wax in the truest sense of the word. A little "knack" is certainly required in order to prevent the wire melting its way right through the wax, but that does not spoil the foundation, as the wax solidifies behind the wire and is still intact. So much for the method; now for the practical details. A four-volt accumulator is required and a few feet of flexible electric-light wire in two pieces; on one end of each is soldered a 4-in. length of stout copper, or even iron, wire flattened out like a bradawl, and a nick filed in the middle of the face. The other ends are connected to the terminals of the accumulator, and the stout wires taken, one in each hand, and one rested gently on each end of the wire, and behold! it is embedded. As soon as the wire sinks in enough take off one of the bradawl ends, and the wire cools at once.

With regard to the disposition of the wires, having tried all ways, I have come to the conclusion that the best is three vertical wires, and with them I have no difficulty in getting straight combs.—D. G. Taylor, Ilminster, April 4.

BEE-LOCATION NEAR GLASGOW.

[7090.] I see one of your readers asks advice (on page 144) with regard to the best location for an out-apiary within fifteen miles of Glasgow where both heather and clover are available. Knowing as I do the surroundings of Glasgow fairly well, I think the best district is that of Kilpatrick, in Dumbartonshire, and I have kept bees for fifteen years. The *Glasgow Herald* is the paper with the largest circulation in that part of Scotland. I send name for reference, and sign—A Dumfriesshire Bee-keeper, April 17.

BEES AND FLOWERS.

[7091.] Referring to Mr. W. Herrod's letter in the B.B.J. of April 2 (page 138) *re* "Lantern-slides on the Fertilisation of Flowers," I should like to confirm all he says with regard to slides. Mr. Herrod gave a lecture at the Town Hall, Hertford, in connection with the Hertford, Ware, and District B.K.A. His subject was the fertilisation of flowers by bees, and he illustrated his lecture with some of the finest slides I have ever seen, many of them showing the act of fertilisation by bees. Needless to say, the lecture was much enjoyed by about forty people, and a hearty vote of thanks was accorded to the lecturer.—W. Gee, Expert Hertford, Ware, and District B.K.A.

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. Macdonald, Banff.

From "Gleanings."—"Labels will stick to tin provided the oil on the surface is washed off with soda or vinegar, then when dry apply the paste and label. In making flour-paste, mix the flour and water *cold*, and then cook to a paste. Don't mix the flour with warm or hot water, or the labels won't stick." (Both the above tips are worth noting.)

General Manager France supplies statistics of the honey-crop in his annual report. This year he sent out no statement because he could count on his fingers all who had a honey-crop. (Ditto on this side.) Just recently we learned of a student who is paying his way through col-

lege from his bees. He works the bees in summer, and in winter, when they require little attention, he, with the money earned, is getting a college education—not an isolated case. (Bees *do* pay.) Early in the season no more brood can be matured than the bees can cover, and all that time there are generally not enough bees to take care of all the eggs one queen can lay, so, if even ten queens were added, how could it increase the force of bees? (Therefore two queens won't pay.) While you are making money at keeping bees, why not make all you can? It can be done. Better bees, good management, short cuts, profitable marketing, &c., will help to do it. Don't tolerate poor colonies in expensive hives. The remedy is not cheaper hives, but better bees. ("*One* really good colony is worth *six* moderate ones" is a true statement.) "If I had inferior honey or honey-dew out of a hive I would keep it there," says a well-known bee-keeper. Hold a moment! I would just save it and give it to the bees for stimulating brood-rearing in spring. (Good idea that last. It equals good honey for this purpose.)

Without a single exception our largest surplus has been got in the seasons following the years when we reared our queens from mothers whose colonies had given an unusual amount of surplus the previous summer. (Pin your faith to selection every time.) Occasionally I spot a colony whose sections will let you slide a match along the bottom-bar without touching comb. Nip the head off any such queens, and breed from those who need no bottom starter working for sections. (Faulty queens, even if prolific, should be superseded.) There can be no question that we can winter out bees better upon sugar than on ordinary honey. Bad honey, or rather the pollen in and around the honey, kills bees. (Bad honey, yes; and bad syrup too.)

From "American Bee Journal."—We can see little value in the plural-queen idea unless it proves on fuller trial that two or more queens in one hive prevent swarming. How that will turn out remains to be seen. (The originator claims it will, but the proof of the pudding is the preein' o't.) When bees rear a young queen to replace or supersede the old mother, they rarely, if ever, destroy the latter, but allow her usually to die of old age. (The author is Dr. Miller. I don't know.) Observation in spring easily shows that in general breeding begins outdoors sooner than in the cellar. (Hello! And the explanation is a paradox.) It is colder out than in; *therefore* it is warmer in a brood-nest outdoors than in. (Outside the stove burns brightly; inside it burns slow: hence there is no paradox.) If any person expects to realise a large income from his bees and scarcely ever looks after their condition he will find himself woefully mistaken. (Yet the writer wisely objects to "fussing.") Bees in double-walled hives build up sooner in the spring than those in single-walled hives, because the former are warmer all the time, while the single-walled hive is alternately hot and cold. (Variations in temperature are highly injurious.)

Bees go to the water-troughs a great deal when fed on candy. It is an emergency food. (Yes, I never care for it but as a *dernier ressort*.) Dr. Miller declared that bees never sting a queen to death unless the human interferes. Cold smoke blown on the ball will release a queen at once. (I won't say "No" to the first statement, but I won't say "Yes.")

"I have had colonies of 'blacks' that were superior to any Italians I ever had," says Mr. Pryor; and he quotes another authority who held that the black bees gathered fully as much honey as the thoroughbred races, that the honey was fully as fine in quality, and that no bee on earth builds such delicate combs and caps them with more virgin whiteness than the poor despised black bee. (I told you so, Mr. York.) Paralysis is more prevalent among Italian bees than blacks, although I have known apiaries of both races to suffer from it. (This actually appears in the "Old Reliable." Age brings wisdom.) Fall honey is not injurious because it is fall honey, but for other reasons. There are different sources, and it depends on that and the *weather*. If honey is not properly evaporated there is trouble. Gathered in rainy weather and from flowers rich in pollen, it ferments. (I have already referred to this feature of honey.) The colony becoming weak, some honeys would absorb moisture from the air, and become poor and watery. If the bees keep it covered it is all right. (Owing to paucity of bees it ferments or granulates.)

From the "Review."—Other things being equal, an extra strong colony will often store more than twice as much as the medium one, especially of comb-honey. (Therefore keep your stocks strong.) Those bees which are the most vindictive in temperament gather and subsist on the poorest quality of honey. They are less cleanly in their work, and breathe a more vitiated atmosphere. Anger of bees is transmitted to their product, and thence to the people who eat it. (The above is a point well worth considering.) Re-queen to improve your stock by selection. If we leave it to the bees there is no likelihood of the young queen being any better than her mother. (Conserve the good; depose the bad.)

From "Canadian Bee Journal."—Mr. William McEvoy says that wholesale requeening should be done in nearly every apiary in Ontario. No one thing in the whole bee-industry is so badly neglected as the queen business—the very thing that so much depends upon for our honey-crops. (The keystone of the arch is wobbly.) "The side of a cell is the bottom, the opposite side is the top; the bottom is one side, and the top the other." (Mixed, but correct.)

From "Bee-keeper."—Long life, hardiness, vigour, and energy in a strain of bees are even of more importance than prolificness in a queen, other things being equal. (Yes, perhaps, but both's best.)

As "extractors" bee-keepers can't be beaten. If you doubt it, go to one of their conventions, and give them half a chance. They'll extract everything you know, and some things you don't know, if you are not alert. (Heckling after a lecture is a glorious treat, if you know your subject.)

Echoes from the Hives.

Rose Farm Apiary, Danesmoor, Chesterfield, April 20.—Easter Monday, and so far I have only seen the inside of one hive this year, and, judging by the present weather, we are not going to experience that pleasure for some time to come. I write on April 20, and there was 2 in. of snow on hive-roofs this morning. I just peeped into one hive on Good Friday, and saw two frames with brood on and less than 3 lb. of food in store. This means spring feeding in earnest, unless a change comes. I expect that all my twelve hives are in about the same condition, but so far all are alive and safe, and it will not be my fault if they take harm before fine weather comes. I know of about a dozen stocks already dead in this neighbourhood, so the prospect looks black; but any day may see a change for the better, which will entirely alter the prospect.—Tom Sleight.

Queries and Replies.

[3685.] *Bees Dying in April—Suspected Isle of Wight Disease.*—As a constant reader of your valuable journal I am sending you by this post a few from a number of bees that are daily turned out of one of my hives. As will be seen, they are considerably swollen in the abdomen and abnormal in size. This condition has so far only been observed in the case of one hive selected from our apiary. I should esteem it a favour if you would give me your opinion as to whether the bees are suffering from what is known as the Isle of Wight disease, or any other serious disease, and, if so, I should be glad of an early reply. I may add that the stock is not suffering from dysentery, and is a fairly strong one. The surrounding stocks seem to be free from this particular condition. The two bees wrapped in paper and sent apart are considered to be healthy, and are enclosed for comparison. Your advice in this matter will be greatly esteemed.—F. Peck, Cambridge.

Reply.—The bees sent appear to have suffered from constipation, which has caused abdominal distension, careful microscopical examination showing the bowel contents to be chiefly pollen, which was found in large masses apparently choking the lower intestine. The pollen also differs from that examined by Mr. Imms in what is known as the Isle of Wight disease, so that your bees may be suffering from quite a different complaint. It seems more probable that long confinement to the hive in continued cold weather has caused the trouble in your case by preventing the bees from taking the cleansing-flights absolutely necessary under the circumstances. This view is corroborated by the fact that the healthy bees sent had the same sort of pollen in their intestines, but only in small quantities, and mostly digested; whereas the organs of the diseased bees contained enormous masses of undigested pollen, caused by the stoppage in the lower intestine mentioned above. Another important difference between the respective cases is observable in the fact that the abdominal distension is not the same in both. In the bees we have just examined there is no yellow matter at the anal opening as in the Isle of Wight disease, and in the absence of any details analogous to those mentioned in description of the latter disease, such as the trembling motion, bees climbing blades of grass and falling therefrom in the vain effort to fly, &c., we see no reason to suppose that it is the same, and therefore conclude that the trouble with our correspondent's bees is due to the adverse season and improper food consumed during their long enforced confinement to the hive.

[3686.] *Bees Fighting in April.*—I would deem it a favour if you could kindly give me a word of advice in the B.B.J. under the following circumstances. The enclosed bees belong to an Italian colony and were picked up among many scores of others on the ground in front of the hive, cast out by their fellow-bees, three or four of which drag out the victim, violently attack it, and leave it on the ground to pine and die. Having examined combs in the hive, and seeing nothing

wrong, I therefore ask:—Are the victims getting old, and on that account attacked? They are not helpless when cast out, for when I have parted them early in the attack the victim gets on the wing strongly; but when not parted early the victim cannot rise. Name enclosed for reference.—INQUIRER, Suffolk, April 17.

REPLY.—The shiny appearance of bees sent points plainly to their having been engaged in robbing, all the pubescence being worn off the body in the work of pillaging. In the absence of details we cannot say more than this, but if the stock in question is the only Italian colony you have it must be that the bees are fighting among themselves, in which case see reply to "Novice" in last week's B.B.J. (page 160).

[3687.] *Bristol Bee-keepers.*—I happened to come across a copy of the useful B.B.J., and on reading its contents was pleased to see therein that some people in Bristol are interested in bee-keeping. I noticed several names of Bristolians, viz., S. Jordon, G. W. Long, and others. As I am a lover of the bee I should be much obliged if you could give me some direction so as to get into relations with some interesting men of the craft in or about Bristol.—F. L. B. COPPENS, Bristol, April 17.

REPLY.—By writing to Mr. L. E. Snelgrove, hon. secretary of the Somerset B.K.A., Weston-super-Mare, you could no doubt obtain a list of Bristol bee-keepers who are members of the association, together with full particulars with regard to membership.

[3688.] *A Beginner's Queries.*—I have three stocks of bees in frame-hives, and on looking through them the other day I noticed in one hive, on the end of one or two frames, a little mildew, and therefore ask:—1. Should I let this remain for the bees to clean away? I also saw that breeding had begun in all three hives, but on some combs many of the cells seemed nearly filled with a very dark substance, almost black. 2. Would that be foul brood? I feel rather anxious on this point. 3. All my hives, frames, &c., were quite new when I put bees into them last year, and, having read in the "Guide Book" of the necessity for clearing floor-boards of any rubbish, will you please tell me the best way of doing this, as I have no spare hives in which to place my bees? 4. Will it be to my advantage to join a Bee-keepers' Association, and where should I apply with regard to membership?—F. W. SMART, Bristol, April 4.

REPLY.—1. The bees will remove any small quantity of mildew from combs without your troubling about it. 2. We have no doubt the "dark substance" mentioned will be pollen only. 3. Some bee-keepers dispense with the annual changing of hives in the manner advised in the "Guide Book" by setting the body-box on a spare floorboard while the one in use has the débris cleaned from it, but it is only necessary to have one spare hive to do the thing properly by changing the first hive, and after cleaning the latter using it for the second hive, and so on till all are gone through. 4. Decidedly to your advantage. Write to Mr. L. E. Snelgrove, hon. secretary Somersetshire B.K.A., Weston-super-Mare, who will advise you what district association you should join.

[3689.] *Light and Dark Honey from Same Hive.*—I am only a beginner with bees, and would like your advice, being at a loss to account for the difference in colour of honey taken from the same hive. I removed some surplus from the hive in question last autumn, and it was good in colour and quality; but the sample of sealed comb which I enclose was cut from a frame recently, and, as you will see, it is quite dark in colour and inferior in other respects. I am therefore led to ask if honey deteriorates in the hive after a time? I have been a constant reader of the B.B.J. ever since I bought my hives and bees twelve months ago, and look eagerly for it every week. The bees appear to be doing well, as they carry in plenty of pollen whenever a fine day comes round. I have been giving them syrup as directed in the new "Guide Book," and want to keep them over the bad spring we have had. I send name, &c., and sign—(Mrs.) A. J., Thornaby-on-Tees, April 15.

REPLY.—It is quite common to find honey of vastly different quality in the same hive, owing to the fact of its being gathered at different times during the same season. The honey in comb sent is dark in colour owing to a large admixture of honey-dew, which would no doubt be absent from the nectar gathered during the clover season. In any case, you may be sure that honey does not change colour or deteriorate in the hive.

[3690.] *Bee-work in Spring.*—I have two stocks, in each of which the bees fairly cover six frames, and each hive has three frames half full of brood. 1. Would you call these strong colonies for this time of the year? 2. Can I use with safety some worked-out frames which contain white mildewed pollen in a few of the cells, or, if it must first be removed, what is the best way of clearing it out? 3. I have some frames fitted with full sheets of foundation which seems to be rather badly wired. Will it be safe to assume that there will be no longer any danger of a breakdown after the bees have properly built them out? 4. Do you recommend an annual

transfer of bees to a fresh hive to enable the one in which they have wintered to be thoroughly cleansed? If so, when is the best time to do the work? 5. Is there any way of getting rid of the tiny parasites which I see on a few of the bees? They are red in colour. Replies to the above will oblige.—F. H. C. W., Sussex.

Reply.—1. In an ordinary season stocks in the condition described at date would only be deemed fair in strength, but the present weather conditions are very backward, so they may be set down as satisfactory. 2. Yes, and the bees will clean the mildew away themselves. 3. It is difficult to say what risk there is of a breakdown without seeing the actual condition of the foundation now; but if it stands till the combs are built out there will be no risk afterwards. 4. Yes, if you have a clean spare hive to start with; and it is now quite time to operate. 5. The parasite is evidently that known as *Braula cœca* or blind louse. If there are only one or two of them on a few of the bees they may be left to disappear of themselves, as they do not thrive in this country, but if at all numerous they should be driven from the bees with a little tobacco-smoke, and brushed off the floorboard on to the ground, where they will die.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

F. W. (Sudbury, Harrow).—*Starting Bee-keeping.*—1. In ordinary seasons the usual time for replacing frames removed in autumn is, in your district, about the last week in March or first in April. This year, however, the date is largely dependent on the weather and the extent to which brood-rearing is going on. 2. The same principle applies with regard to putting on sections or supers. To give room overhead tends to reduce the warmth of brood-chambers, and so retards progress instead of helping the bees on. Broadly speaking, surplus room should not be given till honey is coming in from natural sources and bees are busy on the wing. 3. "Giving room in advance" only means not leaving it until the bees have made up their minds to swarm for want of room and ventilation in warm weather. 4. Yes; quite right. 5. The new edition of the "Guide Book" can be had from this office, price 1s. 8½d., post free, as advertised in each issue of the B.B.J. All the information conveyed above is more fully answered in its pages.

Lloyd (Anglesey).—*Queenless Stock in April.*—Your first two stocks may be regarded as safely wintered, seeing they each have brood on three frames and a full supply of stores. The third stock, however, is not only queenless, but has apparently been so for some months past. It is therefore useless to give the bees brood and eggs from another hive, as they would make no attempt now to raise a queen for themselves. Your best course is to unite the bees to the nearest hive of the other two, as directed in the "Guide Book."

J. Goodsell (Cranbrook).—*Packing Honey for Shows.*—1. The post section-box, formed of corrugated paper and cardboard, is not considered suitable or safe for the purpose of sending to shows. 2. Shallow-combs a year or more old, used again after extracting, cannot be expected to compare on the show-bench with newly-built combs filled and sealed in the current year; but if superior in other respects, well-filled frames of store-combs may readily win in competition with frames of new comb. 3. We do not know how the district of Canonbury stands as regards its bee-forage. 4. You will have little trouble in constructing makeshift hives for carrying in bees on frames of comb. It only needs to let the frames hang in notches cut to hold the frame-ends steady in.

A. H. B. (Cornwall).—*Fraud in the Bee-trade.*—We fear it would never do to apply the "Deposit system" to buying bees, seeing that dealers in bees would never agree to incur the cost and risks of sending either swarms or driven bees on approval or return. The most reasonable course is to buy bees by weight, and allow for a fair loss of weight during transit.

J. Russell (Lichfield).—*Special Show-jars.*—Write to Mr. J. Gray, White Apiary, Long Eaton, enclosing 6d. for a sample jar.

T. G. Richards (Mid-Kent Bee-club).—*Syrup-making.*—1. Cream of tartar is not used in making syrup-food for bees. 2. With regard to tartaric acid for the same purpose by mistake, we cannot say if it would be injurious or not without knowing the quantity put in the food.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

HEALTHY STOCKS, in Frame Hives, 25s., 30s., and 35s. each.—R. CARTER, Chartridge, Chesham, Bucks. f 60

QUEENS FOR SALE, Queen and introduction cage, with full instructions, post free, 5s. each.—GEO. POULTON, Ramsden Bellhouse, near Billericay, Essex. f 56

TWO QUEENS, 1907, FOR DISPOSAL, 5s. each, guaranteed healthy.—E. PANKHURST, Ham House, Meopham, Kent. f 55

FOR SALE, healthy Stocks of Bees, in Standard Frame Hives, £1 each. — REV. H. NEWMAN, Teynham, Kent. f 32

WANTED, 25 strong Natural Swarms, with 1907 Queens.—E. BENNETT, Heacham, Norfolk. f 59

SIX STOCKS NATIVE BEES, in flat top Skeps, with holes, Skeps new last year; package free; safe delivery guaranteed, 11s. 6d. each.—W. BARTON, Laughton, Shortgate, Sussex. f 52

PURE EXTRACTED HONEY, first-class quality, 7½d. lb., package free.—E. WOODHAM, Clavering, Newport, Essex. f 57

BEES WANTED.—Stocks on Standard Frames and Straw Skeps until the end of April; Natural Swarms required from the beginning of May until the end of June. Prompt cash on safe delivery, or if required, exchange for Bee Appliances.—Write lowest prices, or exchange required, POSTMASTER, Breachwood Green. f 54

GIVING UP BEE-KEEPING.—5 Stocks of Bees, in Standard-frame Hives, warranted healthy; large quantity of appliances. The lot cheap, or would divide.—FOX, 5, Museum-street, Ipswich.

DOUBLE-WALLED HIVES.—"The Eclipse," 10 Standard Frames, telescope lift, roof, complete, 6s.; flat, 5s.; "Section Hive," 10 Standard Frames, 2 lifts, rack of sections, complete, 11s.; flat, 10s.; "Extracting Non-Swarmer," Body and Shallow Lift double-walled, with extra entrance, on legs, complete, 20 Frames, 15s.; flat, 13s.; Racks, Section, 1s. 9d.; Shallow, 1s. 8d.; Empty, 1s. 1d., 1s.; Frames, 1s. dozen; flat, 9d.—COOKSLEY, Lyndhurst-road, Wolverhampton. f 65

HIGH-CLASS MICROSCOPE FOR SALE, in splendid condition. Cost £8; sell 60s.—Particulars, L. WAKEFIELD, Blackmore Lodge, Bromsgrove. f 64

SWARMS.—Orders booked now from first prize Apiary, 10s., 12s. 6d., 15s.—V. DURRANT, Freston, Ipswich. f 63

WANTED, Simmins' "Conqueror" Hives, guaranteed free from foul brood; also first-class Observatory Hive. — BROOK, Stamford-road, Bowden, Cheshire. f 62

SELL, strong, healthy Stock, "W. B. C." Hive, 30s.—C. CHANTLER, Eastwell, Ashford, Kent. f 61

THE FOLLOWING are offered in exchange for Swarms: Hearson 60-egg Incubator, pedigree Bull Bitch, Microscope, Turkey Eggs, also bound volumes "Bee Journal."—HERROD, Luton. f 43

WANTED, 500 Swarms, before July 1.—Numbers, price, and particulars to HERROD AND STEWART, Luton. f 42

QUEENS by return of post, reared 1907, healthy, 5s. each.—O. KNIGHT, Epney, Stonehouse, Glos. f 45

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

Special Prepaid Advertisements.—*Continued.*

DEVICE FOR REPAIRING OR DEEPENING COMBS, sample, with directions, P.O. 7d.—A. SIMPSON, Maghull, Liverpool. f 53

SITUATION WANTED by handy man, assist gardener, understands Bees, making appliances.—SHORT, Hanley Castle, Worcester. f 19

WANTED, any quantity of British Beeswax, for cash or exchange.—R. STEELE, Wormit Works, Dundee.

"ALNWICK" FEEDER, best and cheapest for all seasons, rapid or stimulative. Price 6d. each; postage of one costs 3d., two 4d., six 6d., dozen 10d.—J. BALMBRA, East-parade, Alnwick. f 30

BEES-WAX, guaranteed pure, 1 oz. tablets, 1s. 9d. lb., £8 17s. cwt.; in bulk, 1s. 6d. lb., £7 15s. cwt.; samples, 3d.—TURNER BROS., Sandpit Poultry Farm, Croydon. e 87

CLOVER HONEY, good quality, 1 lb. Screw-cap Jars, 77s. gross, 21s. ¼ gross; ½ lb. ditto, 45s. gross, 13s. ¼ gross; Honey, in bulk, 48s. cwt.; samples, carriage paid, 8 . — Further prices and particulars from TURNER BROS., Sandpit Poultry Farm, Croydon. e 86

"CHAPMAN HONEY PLANTS."—Extra Strong Plants, to blossom 1908, 12 3s., 6 1s. 9d., package free, Seed, 6d. and 1s.—JOHN P. PHILLIPS, Spetchley, Worcester. c 34

WANTED, 1,000 Bee-keepers to try my Cottage Hive, with Frames and Sections, painted, 9s. 6d.; genuine "W. B. C.," with Frames and Sections, 15s.; above Hives without Frames and Sections, 6s. 6d. and 13s.; Section Racks, 1s. 3d.; with Dividers (metal), 1s. 9d.—SOUTHERN BEE-HIVE WORKS, Hellingly, Sussex. e 85

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

SECONDHAND HIVES, various, good makes, from 5s. each. List on application. Well painted, guaranteed healthy.—CHARTER, Tattingstone, Ipswich. f 51

"CHAPMAN HONEY PLANT" SEED, 3d. and 6d. packets, post free. — W. WOODLEY, Beedon, Newbury. e 72

WHITE ORPINGTONS & BLACK MINORCAS, grand typical birds, specially bred for laying and fed to produce strong healthy chicks. Numerous testimonials prove we give satisfaction. Eggs, 15 3s. 6d., 50 10s.; day-old chicks, 6s. doz., 50 £1; carefully packed.—J. HOUSEHAM, Huttoft, Alford, Lincs. e 9

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The

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR.

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

REGISTERED FOR TRANSMISSION AS A NEWSPAPER.] [ENTERED AT STATIONERS' HALL.

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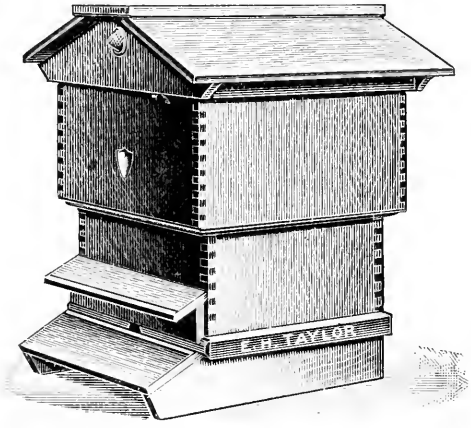

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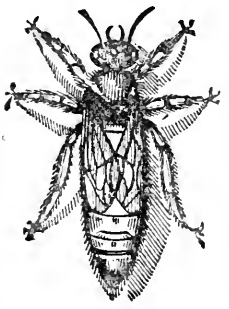

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BEE JOURNAL & RECORD OFFICE, 8, Henrietta St., Covent Garden, W.C.

Editorial, Notices, &c.

NEW LIGHT ON FOUL BROOD.

A report of considerable importance, published early this year by the Imperial Biological Institute, Dahlem, is entitled "Zur Aetiologie der sogenannten Faulbrut der Honigbienen," by Dr. Maassen, in which the writer refers to his further researches on foul brood.

We have already alluded to Dr. Maassen's work in the B.B.J. of March 14, 1907 (page 101), and pointed out that he had found microbes other than *Bacillus alvei* present in foul brood. For some years a controversy has been carried on respecting the identity of the particular microbe present in foul brood. Certain investigators have asserted that it was *Bacillus alvei*, fully described and worked out by Cheshire and Cheyne. Other authorities have attributed the disease to an entirely different bacillus. On the other hand, Dr. Burri and Dr. Maassen have now shown conclusively that at least three different organisms are found in various phases of the one disease.

From microscopical examination of a large number of sections Dr. Maassen arrives at the conclusion that the seat of the disease is in the alimentary canal of the larva, thus confirming the finding of Dr. Lortet, who in 1890 came to the same conclusion from the large number of bacteria he found, and three of which he described (*vide* B.B.J., 1891, page 16).

In Germany this disease manifested itself in two forms, which bee-keepers commonly designated "benign" (*gutartige*) and "malign" (*bösartige*). In the former the disease attacked the larvæ before the cells were sealed and developed the characteristic offensive odour which in bad cases was noticeable even at some distance from the hive. The pap-like masses subsequently dry up and can be removed by the bees, so that during a good honey-flow the disease may be held in check; indeed, cases have been recorded where it has altogether disappeared. In the "malign" form, however, the disease attacks the larvæ after they have been sealed over in their cells and are changing into pupæ, when they turn to slimy, sputum-like masses, which, owing to their viscosity, are difficult to remove from the cells. These so-called foul-brood masses are at first of a greyish or yellowish colour, changing to yellow, finally assuming a coffee colour; they are odourless, or have a scarcely perceptible trace of the odour of bad glue, which at the beginning of the outbreak is not even noticeable, and in this respect it is in strong contrast to the other form. Dr. Maassen now calls attention to the fact that in many cases the characteristics of both these forms of foul brood are obliterated. This occurs when the disease first manifests itself in cells of unsealed brood, and later on in cells that are sealed over. This variation has led to great divergence of opinion, and Dr. Maassen has now been able to show that the different phases of the same disease are due to different organisms which are antagonistic to each other, and are striving for the mastery, sometimes the one and at other times the other prevailing.

Bacteriological researches have proved that the etiology of the disease was by no means simple, but, as Dr. Maassen observes, "foul brood is a disease of the alimentary canal of the bee-larva, which may be produced by different excitants." He then goes on to say that up to now three distinct microbes are in evidence as producers of the disease—namely, *Bacillus alvei* (so named by Cheshire and Cheyne in 1885), *Streptococcus apis*, and *Bacillus Brandenburgiensis*. The first two are found in both forms of foul brood, whereas the last is only present when the disease attacks sealed larvæ. In addition to these a large number of other bacteria are usually associated with those of foul brood.

Out of fifty-three cases of foul brood investigated when the disease had attacked larvæ before capping, fifty-one were found to contain *B. alvei*. In every case and in every stage of the disease pure cultures could be obtained, and this even after keeping the combs for a long time. In one case combs six years old, and in another case one twenty years old, yielded material which was easily cultivated. Dr. Maassen confirms the biological characteristics of this bacillus as described by Cheshire and Cheyne, and later by Harrison, and alludes to the great resistance of the spores to heat and cold; he also makes particular mention of a case where the spores germinated after being kept dry for twenty years, showing the wonderful vitality of *B. alvei*. Moreover, spores kept in syrup and honey for a year and a half germinated readily. Dr. Maassen found it difficult to communicate the disease to larvæ with pure cultures, and only succeeded in doing so in a single instance. The reason for the loss of virulence in pure cultures of *B. alvei* has yet to be determined.

In forty-one of the fifty-one cases examined he also found in company with *B. alvei* a lance-shaped coccus which he named *Streptococcus apis*. This is the same as was found by Dr. Burri, and which the latter described and named *Bacillus Güntheri*, from its resemblance to the Günther milk-bacterium forms.

Bacillus alvei and *Streptococcus apis* are found associated in varying numbers. In

this combination also one or the other predominates at certain times, each of which can be recognised by its peculiar odour. Dr. Maassen compares the odour of the disease in which *Streptococcus apis* is found to sour paste, while that with *B. alvei* may be likened to a strong odour of human perspiration. Both microbes were found in large numbers mixed with undigested pollen in the alimentary canals of larvæ. In later stages they permeate the body, and the foul-brood masses are filled with cocci and spores of *B. alvei*. In only two cases of the disease did he find that *B. alvei* played no part, and that only the streptococcus was present. In one of these he found a thin non-sporing bacterium, and in the other a spore-forming bacillus. This form of foul brood is, according to Dr. Burri, that known in Switzerland as "sour brood."

Dr. Maassen proved that bee streptococci germinated freely after being dried for nine months. On the other hand he was able to confirm what Dr. Burri had already indicated, viz., that the cocci from dead larvæ could not be cultivated. In addition to the cocci other bacteria were present, and the acid produced, which was evident by the smell of vinegar, probably acted as a toxine and had killed the cocci. He thinks that if this streptococcus is really the cause of foul brood the fact that the bacteria in larvæ are thus easily killed is not without importance from an epidemiological point of view. Thus the danger of their presence in a colony is modified, and it is quite possible in such a case that the disease may be held in check for a time, or may even entirely disappear. As a matter of fact, reliable bee-keepers have declared that some colonies in their apiaries have become cured without being interfered with at all.

(Concluded next week.)

REVIEWS.

We have received the first number of volume 15 of the *Journal of the Board of Agriculture*, which begins with the issue for April. The journal is published on the 15th of each month, and arrangements have been made for the introduction of several new features. The size of the *Journal* has been increased from sixty-four to eighty pages each month, and as the leading articles are intended to be of practical service to all classes of agriculturists and horticulturists, the price (4d., post free) will not be raised. The additional space—referred to above—will be filled with monthly articles on the course of trade in agricultural produce, reports on the condition of crops abroad, especially on the Continent, and on the trade in such items of agricultural produce as compete with those that are home-grown. In the April number two series of articles are begun on special subjects, one of which deals with weeds, fungi, and agricultural pests, and will each month be illustrated with a coloured plate, the other being on the culture of small holdings, showing what methods have been adopted by those who have been successful, with suggestions for those who are about to take up new holdings.

There are a good many other very useful and interesting articles, and the *Journal* is in every respect improved. It can be had from the Board of Agriculture and Fisheries, the order being sent to the Secretary. The subscription is 1s. for three months, 2s. for six months, and 4s. for twelve months, post free.

We have received from the United States Department of Agriculture *Miscellaneous Papers on Apiculture*, issued by the Bureau of Entomology. Bulletin No. 75 is in two parts, the first of which contains an article—extending to fifteen pages—on the "Production and Care of Extracted Honey," by E. F. Phillips, Ph.D., who goes fully into the subject. Referring to heating honey, the writer says:—"The only condition under which honey should be heated to a higher temperature than 160 deg. Fahr. is in the case of honey which has been extracted from a colony containing foul brood. In order to kill the bacteria of either of the brood diseases, it is desirable to dilute the honey by adding an equal amount of water, and then raise the temperature to the boiling-point and keep it there, allowing the mixture to boil vigorously for at least thirty minutes. In order that no risk may be run, it is better to make this one hour. Honey which is so treated is changed chemically, and is no longer pure honey, but it makes a good syrup for feeding to bees, and is the best way of using honey from an infected source." Three additional pages are added to Dr. Phillips's article, "The Method of Honey-Testing for Bee-keepers," by C. A. Brown, Ph.D. Part II. refers to "Wax-Moths and American Foul Brood," by E. F. Phillips, Ph.D. The author here shows that the two wax-moths, *Galleria mellonella* and *Achroia grisella*, do not eat the scales formed from larvæ which have died of foul brood, and that infectious material in a colony dying of this disease remains even after the comb is destroyed.

Queen-rearing Made Easy. — This leaflet explains briefly Mr. Sladen's latest methods of queen rearing and fertilisation. They have, we believe, been severely tested during the trying season of 1907. If the directions are carefully followed, well-developed queens will no doubt be produced and safely fertilised in the easiest possible way in the climate of the

British Isles. One of the methods, which consists in utilising to the best advantage queens that are reared naturally under the swarming impulse, is quite simple, and can be highly recommended to bee-keepers in general.

The Preparation of Honey and Wax for the Show-Bench. By Joseph Tinsley, Lecturer and Expert to the Staffordshire Bee-keepers' Association. Price 6d.—The author, in his prefatory notes, says that at many exhibitions of bee-products which have come under his notice while assisting in the capacity of judge, he has noticed numerous excellent samples of honey and wax which had been totally spoilt either by carelessness or ignorance on the part of the bee-keepers by whom they were staged. In the sixteen pages of this little pamphlet the writer, in simple words, shows how the inexperienced can avoid the usual defects which lead to failure, and points out the way to success.

One and All Gardening, 1908. Edited by E. O. Greening, F.R.H.S. (London: Agricultural and Horticultural Association. 160 pages, price 2d.).—The thirteenth issue of this popular annual is as full, as varied, and as copiously illustrated as any of its predecessors. The first edition printed of 100,000 marks the confidence of the publishers in a large demand.

BRITISH BEE-KEEPERS' ASSOCIATION

FRANCO-BRITISH CONGRESS OF BEE-KEEPERS.

To the Editors of the BRITISH BEE JOURNAL.

GENTLEMEN,—In reference to the Congress of Bee-keepers to be held at the Franco-British Exhibition on June 25, under the presidency of Lord Avebury, the committee which was appointed to organise the congress desires me to say that suggestions as to suitable subjects for discussion on that occasion will be gladly considered. These should reach me as soon as possible.

May I take this opportunity of saying that the expenses of the congress, which will not be great, will be partly defrayed by means of a guarantee fund, the maximum contribution to which has been fixed at £1, though smaller contributions will be gladly accepted? Any portion of this fund which may remain unexpended will be returned to the guarantors.

Yours faithfully,
J. B. LAMB,
Hon. Sec., Congress Committee.
3, Maitland Park Road,
London, N.W., April 22.

NORTHUMBERLAND AND DURHAM B.K.A

ANNUAL MEETING.

The annual meeting of the above association was held in the rooms of the Young Men's Christian Association on Saturday, April 18, Mr. J. W. Kidd presiding. Amongst the numerous company present were Messrs. J. Waddell, J. W. Lish, J. E. Walton, W. Pringle, Rowlands Gill, and W. Ferguson.

The secretary read the minutes of the last annual meeting (which were confirmed), and also the report, showing that the honey-season of 1907 had been one of the worst in the memory of the oldest bee-keepers. As a result the annual honey show usually held in October was abandoned. A great number of stocks had been lost during the late winter and early spring, and bee-keeping was reported to be in a low state at the present time in the two counties.

The financial statement was read and adopted, showing a balance in hand of £9 2s. 1d.

The officers for the ensuing year were then elected as follows:—President, Lord Barnard, Raby Castle; Vice-Presidents: Lord Northbourne, H. F. Bulman, Esq., Dr. W. Moore Ede, and H. G. Stobart, Esq. The hon. treasurer, Mr. J. W. Wakinshaw, Newcastle, and the hon. secretary, Mr. J. C. Hedley, were re-elected.

Members were invited to take advantage of the Royal Agricultural Show being held in Newcastle to enter their honey and wax and do their best to make the show a success. It was decided to have a conversazione on the evening of Thursday, July 2, when a paper will be read by Dr. W. Moore Ede, and it is hoped that the bee-keepers present at the show will attend and take part in the discussion which is to follow. All bee-keepers will be welcomed.

After an interval for tea, an evening meeting was held with the hon. secretary in the chair, when interesting addresses were given by Dr. W. Moore Ede on "Lessons and Experiences from the Season of 1907," followed by "Hints on Spring Management," by Mr. J. W. Kidd. After full discussion a cordial vote of thanks was passed to the speakers, and thus ended a very successful annual meeting.—J. C. HEDLEY, Hon. Secretary, W. Stocksfield-on-Tyne.

SHROPSHIRE B.K.A.

ANNUAL MEETING.

The annual meeting of this association was held in the Mayor's Court, Shrewsbury, on April 11, Mr. Beville Stanier, the president, in the chair. Among those present were Messrs. Roff King (chairman of committee), R. Holland (hon. treasurer), S. Cartwright (hon. sec.), A. Beale, D. Scott, W. H. Brown, P. Jones, T. Cooper, J. Davenport, J. Clay, J. Carver, J. Butler, J. Garland, and the Rev. D. Rowlands.

The committee, in their annual report, commented satisfactorily on the appeal which had been made to the county gentry

for financial support towards a scheme under which the experts (Messrs. Brown and Scott), members of the association, had been able to visit the apiaries of members requiring assistance, and advising them as to the management of their bees. The result of their work had been an increase in the membership of the association, and it was hoped that in the near future a round of visits to all members might be arranged. The thanks of the committee were due to Mr. Beville Stanier, the president of the association, for his substantial assistance and to the Shropshire Horticultural Society for their grant of £30 towards the expenses. A satisfactory balance-sheet was also presented, and both this and the report were adopted.

The president, Mr. Beville Stanier, was re-elected, and a vote of thanks passed to him for his assistance to the society.

Mr. Stanier, in again accepting office, expressed his satisfaction at the benefits which had resulted from the visits of the experts of the association referred to in the report. As president of the Shropshire Horticultural Society he was pleased to know that the two organisations were working so well together.

The following were elected vice-presidents of the society:—Sir Thomas Meyrick, Bart., Mr. H. H. France-Hayhurst, Mr. W. H. Foster, Miss Mary Eyton, Miss A. Downward, Lady Mary Herbert, and Mrs. Brooke (Shifnal). The motion, having been seconded, was carried.

Votes of thanks were accorded to the hon. treasurer, Mr. Holland, and the hon. secretary, Mr. Cartwright, and both were re-elected to their respective offices. Votes of thanks were also passed to the Shropshire Horticultural Society and to Mr. Vine, as auditor.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

BEE-KEEPING IN SOUTH AFRICA.

VALUE OF A B.B.K.A. EXPERT'S CERTIFICATE.

[7092.] In view of the stimulus lately noted throughout South Africa with regard to placing the bee-keeping industry upon a sound basis, I venture to suggest the probability that some experts will be required by the various Administrations or bee-keepers' associations, now only in an embryo stage in this country. It is more on account of my desire to see the industry attain a position of great import than for any other reason that I approach you on the subject of obtaining the expert's certificate of the British Bee-keepers' Association. If I am correctly informed, there are no means available in South Africa for undergoing a test as to one's knowledge of the above subject by examination; therefore I should feel grateful if you could assist me to obtain the requisite certificate through other channels than those available in the mother country. Thanking you in anticipation, I send name and address for reference, and sign myself—CAPE BEE-KEEPER, Douglas, Cape Colony, South Africa, April 4.

[We quite agree with our correspondent regarding the desirability of any work undertaken by the Governments of South Africa in connection with the bee-industry being "placed on a sound business basis," as it is in the mother country, and we do not see any difficulty in the way beyond securing an examiner qualified to act on behalf of the B.B.K.A. The only qualified expert of whom we have knowledge resident in Cape Colony is Mr. J. Martin, Wagon Drift Farm, Perseverance Station, District Uitenhage, who might be willing to undertake the duty of examiner if duly appointed by the parent body here. The only other qualified person we know of is located in the Orange River Colony, viz., Miss D. M. Sillar, who is a certificated expert, and now has charge of the apiary and of the poultry department of the Scottish Settlers' Association, Ltd., Kaal Spruit, O.R.C. We should be very pleased to nominate either of the above as examiner on behalf of the B.B.K.A., and, if approved by the Council, the necessary papers could be forwarded as desired. —EDS.]

(*Correspondence continued on page* 176.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

Mr. Stapleton is not unknown to B.B.J. readers, various contributions from his pen having appeared in our pages, and his useful notes which follow need no addition from us. He says:—

"My first recollection of bee-keeping goes back to the time when as a child I was placed in my father's garden to carry word indoors when a swarm came off. Since then I may date my start on my own account some twenty years ago, when my sister, on leaving the district, gave me a couple of stocks in skeps, and these increased to five the following year. Like

my father and sister, I only knew how to get honey by stifling the bees, and, according to rule, I sulphured one lot; but the sight of the poor bees dead and dying, after their toil in gathering the honey I was robbing them of, made me vow never to kill another lot of healthy bees, and I have kept my word. The other skeps were turned up one by one, and after blowing in a few puffs from my pipe, to drive the bees off the side combs, I cut out a few from each, and left the rest for the bees' use. I made up my mind, however, to try to learn something about modern bee-keeping, and paid a visit to several bee-men, hoping to get help, but without much success, until one day I was fortunate enough to see a copy of the B.B.J., and lost no time in ordering it from a newsagent to them to do as I did—viz., to take in the B.B.J., to get a 'Guide Book,' and to study both with all their might.

"I next got Root's 'A B C of Bee-Culture,' to which I am also indebted for valuable hints. I have started about seventy bee-keepers on modern methods during the last four years, and have supplied them with foundation and other appliances; but several are taking the B.B.J. regularly, and are making good progress towards complete success. They pay me several visits each year, and I in turn give them a call to see how they are getting on and 'put the crooked places straight.' I am a firm believer in the standard frame, including its $\frac{3}{8}$-in. top-bar, which with me answers all right.

"With regard to my 'takes' of honey, I manage in an ordinarily decent season

MR. T. STAPLETON'S APIARY, GWINEAR, HAYLE, CORNWALL.

come every week. This was my first move towards success with the bees. I saw where appliances could be bought, and, after buying a copy of the 'Guide Book,' started to make my own hives from the directions given in it. It occupied me for the first year after in getting my stocks transferred to the hives I had made, and in the following winter I made more hives for the coming season. In this way I increased my apiary to twenty stocks, and did so well that the news spread around of my having secured a ton of surplus honey from my bees. This brought bee-men from all quarters of our district, eager to know how it was done. I need not say I was a bit proud of my success, and was not backward in telling to secure from eighty to a hundred sections per hive, and considerably more from hives worked for extracted honey. I cannot remember a really bad season prior to this last one, but, of course, some are better than others. In selling my produce I get 9s. per dozen for sections, and the same for screw-cap jars of extracted. I have had as much as 60s. per cwt. for first-grade extracted in bulk, and 56s. for second-grade, tins provided and half carriage paid.

"The hives seen in photo are all home-made, and the figures seen are myself and my youngest daughter. Wishing good luck to all in the craft, I hope these rough notes may be of some little interest."

(*Correspondence continued from page* 174.)

CURIOSITIES IN BEE-LITERATURE.

[7093.] *A Nearly Unique Bee-book.*—On page 155 (7078) of B.B.J. "D.M.M." reports the sale of a bee-book which he describes as "unique." This is nearly, but not quite, correct. Mr. Russell produced this copy and "at least one other" in 1822, and shortly afterwards found himself "called upon to leave the printing-office for the counting-house." His methods were as follow:—"I first cast the metal into small bars, then reduced it by the process of beating to the exact size of the type, and, having adjusted it to the proper length, I cut out and formed the letter, first with my penknife, finishing the finer parts of it with a very small instrument —*parva cubula* (*? cupula*) *cerdonis.* [Some little cobbler's tool unknown to me. —H. J. O. W.] In forming the letter I was guided principally by examining the impression of types of the same size on a printed book. In this manner I 'manufactured' about 700. My next work was to make a press, which I constructed on a small scale, and wrought out by means of a screw. I then composed a page of my letterpress, and, although the little machine did not work entirely to my mind, I succeeded in throwing off two copies of a manuscript pamphlet, besides a few observations on natural history, which, by the way, I may observe, was never intended for the press."

In 1834 he set to work on a fresh edition. Of how many copies it consisted I cannot say; one is in the British Museum, and a friend of mine in Washington has recently acquired another. These were a great improvement in every way on the first production. The copy sold at Sotheby's was afterwards returned as imperfect. I could see no imperfections beyond those owing to inexperience and indifferent printing plant. Probably the purchaser's second thoughts told him that he had given too much for a rather shabby little book, and, if so, I am inclined to agree with him. I should prefer one of the "second edition." It is not clear why the author at first omitted the final "l" when printing his name. He signed his private correspondence in the usual way.—H. J. O. WALKER (Lieut.-Colonel), Budleigh Salterton, April 26.

NOTES FROM CORNWALL.

[7094.] *Foul Brood.*—A slight inaccuracy has crept into my last communication (7088, page 165). The wax alone did not pay the cost of feeding up the bees and renewing combs, but the wax and honey combined gave me a surplus over expenses of about 2s. per hive, not counting in, of course, the normal surplus obtained from the supers. In view of my long experience in a foul-brood district, I see no great reason why any fairly intelligent man should not manage successfully to cope with the disease on the same lines. Very full instructions are given in the "Guide Book" for treatment generally, and the system I adopt is on similar lines.

About a month ago I was asked by a beginner to examine some stocks of bees that were for sale. The district in which they were located is an ideal place for bees, but there is some foul brood there in the apiaries of the neglectful type of bee-keeper. I found, however, that the particular stocks I was desired to look at were absolutely free from any trace of disease, while it existed a quarter of a mile away.

Readers of the B.B.J. for some time past are aware that a few years ago I was able to claim that, although keeping bees within a hundred yards of infected stocks, my own remained quite healthy. At that time I lived in a similar locality, one admirably suited for bee-keeping, sheltered, and with a honey-flow beginning in early April and ending in October. I now believe that the immunity enjoyed was due to the almost perpetual honey-flow. The bees did not go "robbing"; they fed the young on fresh-gathered honey, which, according to my experience, prevents the development of foul brood.

I now live in about as bad a place for a bee-keeper as could be pitched on in our county. My apiary is on the high side of an exposed hill, with no honey obtainable until mid-June. There are, I believe, only four stocks of bees kept on a higher site than mine in Mid or South Cornwall. The result is that, no matter what care or attention is given to the bees, I am quite six weeks behind those whose hives are located in the sheltered valleys of Cornwall. Fortunately, the honey-flow is later also, and I manage to build up my stocks to full gathering strength in time to meet it.

When the early spring is cold and windy as at present, the loss in bees who venture outside must be great, though, so far as I can see, not many leave their hives.

Do Bees Hear?—For my part I believe that they do. If bees have no sense of hearing, the "piping" of a young queen before she emerges from her cell would be purposeless. When sounds of this nature are heard, we must presume that the bees have organs to hear them. Nor is there any reason to believe that the more highly organised animals have fewer senses than the usual five, but some think that certain animals have a telepathic sense in addition.

The sense of taste in bees is probably the same as that of human beings, or, to

say the least, if honey is not to them a sweet substance it must excite no feeling of dislike. Thus, reasoning from analogy, the senses in all highly-organised animals are practically identical, and, without attempting to define the mind of a bee, we may reasonably infer that it is not inferior in this respect to, say, a grosser animal like the pig.

Wiring Foundation.—This is an operation that I cannot express an opinion upon, never yet having found it necessary to use wire. If good foundation be used it should not break down. Of course, if we hive a swarm direct on to foundation, and then cover the lot up warmly right away, we shall certainly have a breakdown, no matter how good the foundation may be. Swarms should have only a thin cloth laid over them for the first week or so. This also applies to all bees immediately placed on new foundation. They cluster on the latter, and develop so much heat in secreting wax that it will break away even if wired. —W. J. Farmer, Redruth.

BEES AND BUTTERCUPS.

[7095.] In answer to Mr. Woodley's request on page 164, I forward a line to say that on Sunday afternoon, the 26th, the weather being sunny and warm here, I noticed quite a number of bees busy working on the common buttercup. Probably a number of these bees were from my apiary, which is only a short distance away, and it was most interesting, the day being such a contrast to the snow blizzard we had the day before (Saturday). My bees are in fairly good condition, and, given spring weather from now on, they should give a good account of themselves.—Fred A. Kent, Dorchester, April 27.

[7096.] Referring to Mr. Woodley's remarks in "Notes by the Way" (page 164) where he says, "I have never seen a bee on a buttercup yet," may I give my personal experience on this question? I often watch bees working in the fields, and I have frequently seen them visit buttercups, but it is probable that they pass them by when other flowers are plentiful. I have, however, no doubt whatever about their obtaining both honey and pollen from the buttercup, as the following will show:—

In 1901 (the Coronation year) the weather in June was cold and backward, but the week in which the King should have been crowned was very hot. My bees were so short of stores at the time that a little syrup had been necessary to keep them going, but as soon as the hot weather came honey was brought in very freely, and I was at some trouble to ascertain where it came from, as there were no flowers blooming in my district except buttercups, and these were very profuse, the fields being yellow with them, and I saw my bees working on buttercups practically from morning until night. The result was that they stored quite a nice lot of honey and sealed it over. On taking a little of it I found it what would be described as dark, but by no means bad; still, I did not wish to leave it to be mixed with the clover, which began to yield very soon afterwards. I removed the sealed combs, and from seven or eight hives I extracted 150 lb. of what I firmly believe was buttercup honey.

Bees seem very backward this year.—Thos. Harper, Uttoxeter, April 27.

[7097.] Mr. Woodley, in his "Notes by the Way" (page 164), referring to "D. M. M.'s" list of pollen-bearing plants visited by bees, states that he has never observed a bee on a buttercup yet. I may mention I have often looked for, but never found, a bee on this flower. In several novels, when the bee has been introduced as playing a part on a fine summer day, it is described as visiting the buttercup. Marie Corelli, amongst others, falls into this mistake. Possibly the fact of bees carrying yellow pellets of pollen may have led them to associate these with the buttercup. A bee-keeper must not, however, allow his imagination to deceive him in this way. There are several plants that are popularly called buttercup. *Ranunculus acris* is the true buttercup, which flowers in June in Scotland. *Ranunculus repens* and *R. bulbosus* are common in pastures and roadsides, and come into flower in May. It requires some knowledge of field botany to distinguish the difference in the three plants mentioned.

Localities differ greatly in their flora from various causes. In the list given by "D. M. M." there is an omission of a plant that is found in flower everywhere and nearly all the year round—*Bellis perennis*, the daisy, "Wee, modest, crimson-tippit flower," as Burns describes it. *Nepeta Glechoma* (ground-ivy) is an early April flower, and bees seem to be very fond of it. It is found creeping along hedgebanks in many localities. I send name, &c., for reference.—F., South Ayrshire.

RECIPE FOR HONEY-DROPS.

FOR COUGHS AND COLDS.

[7098.] Take 1 table-spoonful of malt and about 1 pint of water. Boil for ten minutes slowly; then strain the water, and pour it back into the saucepan. Next put into that water 1 lb. of good sugar and about 3 oz. of honey. Not more than

3 oz. of the latter should be used, as otherwise the honey-drops would be sticky, and would not keep firm a long time, as they should do. Boil the mixture, and stir until the sugar is thoroughly dissolved, While it boils remove the scum and the impurities always existing in greater or less degree in the sugar, and which rise to the surface. Boil the mixture to 113 deg. Réaumur. The easiest way of testing whether it is boiled enough is to take up a little with a spoon, and dip it into cold water. If it then breaks or cracks like thin glass or ice, it is boiled enough. Care must, however, be taken not to either over-boil or burn it, because burnt sugar or honey is as detrimental to the health of men as it is to bees. A smooth, clean slate or a marble slab having been covered with olive oil, the mixture is then poured on to it, and allowed to cool for a few minutes. Then, as the mixture stiffens, gather the ends and sides, and double the cake like two sheets of cardboard. Before it gets cold divide it promptly into small squares of proper size with a sharp knife, which latter has been also slightly smeared with the oil. The honey-drops are then finished. If put in a tin with a well-fitting lid, they will keep good for a long time. Leaving them exposed to the open air deteriorates them.

These are the honey-drops of which Mr. Woodley says, in a former number of the B.B.J.: "There is a full honey-flavour in them, almost as though it was a small lump of heather-honey." A better remedy for a sore throat could scarcely be imagined, as they melt slowly in the mouth.

I may add an incidental remark about an objection which may present itself to those who, on reading the above recipe, may ask: "Is it possible to burn honey?" We are sometimes advised to boil honey before using it as food for the bees. But it must be borne in mind that good honey (I do not speak of honey that may be as thin as water) cannot be boiled *unless some water be added to it*, for, honey being a kind of sugar, it will be burnt before it has boiled for two minutes; and when cooled down it will settle like strong glue, and in that condition be perfectly useless to bees. Honey may, indeed, be heated *au bain-marie* without danger of burning it, but then it is not boiled, only heated. Hoping that these remarks may prove useful to some of your readers. — Bro. Columban, O.S.B., Buckfast, Devon.

FRANCO-BRITISH CONFERENCE.

[7099.] In connection with Mr. L. S. Crawshaw's mention of the desirability of having an English-French glossary of bee-terms for the assistance of those attending the conference, I would suggest the use of Esperanto in preference. This does not take a person of average ability long to learn, and it may be that some of those who attend the conference may be conversant with that universal language already.—F. Wayman, Cottenham.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Derided or Denied (page 134).—I am glad, "D. M. M.," that you did not think me derisive. Let us derise in our might and slay the wicked comp. who thought to pour the inky waters of derision upon us from his unworthy fount. Let us slay him in cold type; and let not your heart be troubled should I cap anything more that you say. You know, "D. M. M.," dear, there is not much powder and no shot in a "cap," so do not be deceived into thinking it a "right and left" intended to bring down a "grouse" from a Scotch moor!

Re-queening (page 135).—I am not quite sure about the safety of the plan advocated by "D. M. M." If the young queen be caged for two days she must cease laying, and she will, therefore, be little more acceptable to the bees than their old queen. Indeed, I should have thought her to be less so! I should have far more faith in their selection of the better queen if the newcomer were introduced in the very normal condition he outlines previously, minus the caging process, which, to my mind, spoils the whole pudding! I do not say that the new queen will *not* be accepted, but I should like to hear the evidence in favour of the plan.

Twisted Frames (page 137).—Frames assembled in a jig are certainly nearer truth than those assembled by hand, but unless the ends of the verticals are quite square the frame will still suffer from torque. That at least should make it feel at home in "Cappings," where word-twisting is not unknown, if the critics are to be believed! The twist may be remedied by driving one of the nails further home. French nails should be used for the job. The head stiffens the frame more than the oval nail. The dovetailed frame does not need a jig, but that is its only advantage, and dearly bought. I fear I am no friend of the "D. T." frame, and can only imagine my using it in a "D. T." frame of mind!

Heather-honey (page 137).—"Cambrian" calls upon Mr. Avery to come and curse me on page 146; but I see that, like Balaam of old, he has remained to bless! "D. M. M." also comes to my rescue with a German report on page 149. Thank you, gentlemen! But I do not

say that this honey always granulates early, only that it has a "tendency" to granulation. In other words, I would warn the inexperienced bee-keeper of a possible danger. I have some heather-honey gathered by my bees in 1904 which still shows no signs of this, so that seasons vary, as do districts. This part of Wharfedale is peculiarly subject to conditions which may favour the process. Mr. Avery is no doubt right about the pine-honey, and this complicates the matter a little. But this has not always been present, and is very easily detected, as coniferous honeys are rather like honey-dew in more respects than one.

A Mareh Swarm (page 146).—If "Cappings" are short this issue, readers must attribute it to the effort to reconcile this letter with its title, which ought to read "A Moth's Stolen March" or "An August Guest's Swarm Reception," or, indeed, anything other than it is! I am sorry I am unable to throw much light on the subject. It is a well-authenticated fact that the Death's Head Hawk Moth can emit a note something like the squeak of a slate-pencil. It trembles as it does so, probably as a result of the effort. It is also generally believed to rob bee-hives. It would be worth while to experiment on the bees with a loose slate! Write them a few notes of interrogation, so to sp(qu)eak!

Grose's Method of Wiring (page 147).—I should have expected the bees to worry under a wire merely stretched against the foundation. Apparently they do not with a tight wire as they would with a slack one. Is there no difficulty in getting both sets of wires to the same tension? I certainly would not withdraw the wires when once in, as their principal use is to strengthen the comb. One advantage of the embedded wire is that the foundation need not be added until it is required. I should have thought it as quick to use two horizontal wires fastened off upon a single nail, and embedded at leisure. With good wire, too, the wiring can be used over again, if the comb be melted from its moorings.

Two Varieties of Foul Brood (page 156).—I am obliged to Mr. Bullamore for his explanation, but he is wrong in attributing to me the names of "mild" and "virulent" foul brood. They go back beyond my experience of the craft, and possibly beyond his own. If these two diseases are distinct—and there is a growing weight of evidence in favour of this view—then it may remove the Transatlantic confusion which undoubtedly exists when the two are separately and authoritatively named. "Mild foul brood" is certainly referred to in the "Guide Book," but by some curious process Mr. Bullamore appears to think that I am responsible. Possibly that I wrote the "Guide Book"! I assure him on my honour that I did not! I would that I could say I did!

Queries and Replies.

[3691.] *Bees Robbed-out in April.*—I started a hive of bees last autumn, and when I left to go away for the winter they seemed very well and thriving. The surroundings consist of a large flower and vegetable garden, in the middle of the Surrey country. I came back a week ago, to find the hive deserted! The gardener reports that he saw the bees continually buzzing about the entrance to the hive, but not making any attempt to work. This he noticed for two or three days. The hive is a square wooden one, warmth being kept up by packing the inside with felt and flannel. My gardener's bees (about 150 yards off) are flourishing. I am sending you a comb from the deserted hive, and a few dead bees found in the hive, in the hope that if disease is responsible for this catastrophe you will be able to advise me. The hive smells perfectly sweet. The enclosed comb is fairly typical of the others. The bees were kept well supplied with syrup.—F. D. C., Shamley Green, Surrey, April 24.

Reply.—From the appearance of comb sent, we should say the hive has been plundered of its contents by robber-bees, and if we are right in this view the probability is that the stock was queenless when attacked, in which case your bees will have joined forces with the robbers, and now occupy the same hive as the latter. There is no sign of disease in comb.

[3692.] *Faulty Section-racks—Ventilation in Hive-roofs.*—1. I find that when supers are put on, the section-rack does not altogether cover the tops of the frames, and so I am led to ask—Why is this? 2. I also notice that in hives (say, the "W. B. C.") there are ventilating openings in the roof of the hive. But what is the use of these when the body-box is covered with American cloth and other coverings through which no ventilation can pass to the holes in the roof? Your reply will oblige — Tyro, Ardgay, Ross-shire, April 24.

Reply.—1. A properly-made section-rack completely covers the top-bars of the frames and prevents the escape of bees. The fault, therefore, in your case lies with the maker of the rack. 2. The ventilating holes in hive-roofs (covered with either a cone-shaped bee-escape or perforated zinc) serve the useful purpose of avoiding the loss of stray bees that may escape when manipulating the hive, as the bees are able

to pass through the cone and thus return to their home. The circulation of air through the roof also tends to reduce the heat in summer and prevent damp in winter.

[3693.] *Outside Feeding, Disinfecting Bee-house, &c.*—1. I am one mile from the nearest apiary, and I should feel obliged if you would say if, in your opinion, by feeding my bees outside I should also be feeding the bees a mile away. 2. Will you kindly tell me a method by which I can disinfect the lot at one operation?—F. C. P., Warminster.

REPLY.—1. If bees are flying strongly at the time outside feeding takes place, it is more than probable that some would join in from hives a mile away. Your best plan will be to expose the food for only a short time in the middle of each day, and remove it, say, in a couple of hours. It will not be difficult to tell if other bees than your own are helping themselves at your expense. 2. There is no possible plan of disinfecting a bee-house, hives, and appliances in one lot, as proposed, if you have had foul brood in the apiary. The operation must be carried out in detail, and each item scorched with a painter's "blow lamp" in bad cases, to get rid of the spores of *B. alvei*.

Bee Shows to Come.

June 30 to July 4, at Newcastle (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Schedules from E. H. Young, Secretary B.B.K.A., 12, Hanover Square, London. **Entries close May 14.**

August 5 to 7, at Halifax.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. Schedules and form of entry from John Maughan, Secretary, Blake Street, York. **Entries close June 27.**

PRESS CUTTINGS.

FRANCO-BRITISH EXHIBITION: THE HALL OF CONGRESS.

To use the enthusiastic expression of a Parisian artist who visited recently the "City of White Palaces" at Shepherd's Bush, the Congress Hall will prove one of the chief glories of the Franco-British Exhibition. Picturesquely situated at the end of the great lake in the Court of Honour, and designed in the ornate Oriental style, the hall arrests attention at once. From its terrace down to the lake extends a wide range of crystal steps, over which runs a cascade of water. By an ingenious arrangement of electric beams the hues of the rainbow are refracted through the waterfall in a scheme of bright and ever-changing colours. To add to this illusion of a picture from the "Arabian Nights," a number of gaily-decorated gondolas will be seen darting across the lagoon and the grass-flanked canals which run from the Court of Progress into the Court of Arts.

The Palace, as is known, is to be, during the whole time the Exhibition will remain open, the scene of great international congresses and conferences. Among the various bodies, learned, artistic, or commercial, which are to assemble there are the Association of Teachers in Technical Institutions, the Royal Sanitary Institute, the British Bee-keepers' Association, the Tramways and Light Railways Association, and the Institution of Marine Engineers. A Colonial Congress and a Universal Peace Congress will also be held in July, and arrangements are now being made for the use of the building by the Dante Library, the Institute of Mining Engineers, and the Esperanto Society.—*Daily News.*

A correspondent (Mr. Thomas S. Upsher) commends the following for the wasp-pest:—"Last season," he writes, "I caught over forty queen-wasps through hanging bottles with beer and sugar in them upon my fruit trees when in bloom. I think if this was generally known the plague of wasps would be considerably lessened in the fruit districts."—*Western Morning News.*

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

(MISS) B. I. H. (Ropley).—*Help for Beginners.*—We think you could learn where help could be obtained in your district by writing to Mr. Jas. Lee, Bee Farm, Fulbourn, Cambs.

R. ROSS (Biggar, N.B.).—*Flour-candy.*—If you can get the bees to take the remelted candy from a feeder, it will do them no harm.

Honey Samples.

W. J. FRASER (Cumberland).—Sample sent may be pure, but it is, in our opinion, foreign honey, and as such we cannot pretend to name its source; nor has it any characteristic flavour that we recognise.

Suspected Combs.

S. B. (Royston).—Comb sent is completely clogged with pollen, and in consequence is useless to the bees in its present state. The white specks seen in some cells are simply granulated honey; there is no sign of disease in comb.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

ELECTRICAL OUTFITS complete, for Embedding Wire in Foundation, guarantee satisfaction, from 4s. 6d.—S. J. BALDWIN, Apiary, Bromley, Kent. Tele., 640 Bromley. f 73

3 SPLENDID "W. B. C." HIVES, practically new, with strong Stocks of Bees on 10 Frames, 35s. each; Appliances and Section-racks, with drawn-out Comb.—DAVIDSON, The Towers, Beacon Hill, Bath. f 68

FOR SALE, 20 "W. B. C." HIVES, as good as new, with accessories. No reasonable offer refused.—WILLIAMS, Sunnyside, Wellington-road, Bilston, Staffs.

WIRE EMBEDDERS, Uncapping Knives, Foundation Cutters, trade only.—E. BLAKEMORE, St. Mary's, Birmingham. Established 1845. f 67

CASE of 2 in. A. I. Root's No. 1 4-way Sections (1,000) for sale, to clear, 18s.—L. GOFFIN, Wakes Colne, Essex. f 76

GRAY'S SHOW JAR, fine sample of British manufacture, fulfilling all requirements of the Show Bench, 3s. dozen, free on rail; sample, 6d., post free.—THE WHITE APIARY, Long Eaton. e 84

BEE-HIVES and POULTRY-HOUSES. — We make all descriptions. Write for our special prices.—LAMB BROS., Moreton-in-Marsh, Glos. f 75

FOR SALE, cheap, 6 strong Stocks, in good as new Standard Frame Hives, singly or in one lot.—T. S. HOLDSWORTH, Kirton Lindsey, Lincs. f 72

FOR SALE, several "W. B. C." Hives, all dovetailed, from 10s. each; photo. 2d.; a few Stocks taken in part exchange.—HARRY SWIFT, Churchdown, Cheltenham. f 71

PROTECT YOUR FRUIT.—Tanned Garden Netting, only best quality supplied, 25 yds. by 8 yds., 50 yds. by 4 yds., and 100 yds. by 2 yds., 9s. each.—L. WREN AND SON, 139, High-street, Lowestoft. f 70

HIVES.—Substantial Standard Hives, with absolutely weather-proof roofs, painted with best paint, 16s. each; also Swarms, to get you honey this season, delivery not later than second week in June, 4 lb. 15s., 3 lb. 12s.—H. WILCOX, Breedon Apiary, Olton, near Birmingham. f 69

"THE PREPARATION OF HONEY AND WAX FOR THE SHOW-BENCH," by Joseph Tinsley, Lecturer and Expert to the Staffordshire Bee-keepers' Association. Scores of testimonials. One bee-keeper writes: "Full of hints both to beginners and those further advanced. A veritable gold mine to exhibitors."—Post free, 7d., from JOSEPH TINSLEY, Chebsey, near Stafford. f 74

HEALTHY STOCKS, in Frame Hives, 25s., 30s., and 35s. each.—R. CARTER, Chartridge, Chesham, Bucks. f 60

PURE EXTRACTED HONEY, first-class quality, 7½d. lb., package free.—E. WOODHAM, Clavering, Newport, Essex. f 57

THE FOLLOWING are offered in exchange for Swarms: Hearson 60-egg Incubator, pedigree Bull Bitch, Microscope, Turkey Eggs, also bound volumes "Bee Journal."—HERROD, Luton. f 43

WANTED, 500 Swarms, before July 1.—Numbers, price, and particulars to HERROD AND STEWART, Luton. f 42

SWARMS.—Orders booked now from first prize Apiary, 10s., 12s. 6d., 15s.—V. DURRANT, Freston, Ipswich. f 63

Special Prepaid Advertisements.—*Continued.*

QUEENS by return of post, reared 1907, healthy, 5s. each.—O. KNIGHT, Epney, Stonehouse, Glos. f 45

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

SITUATION WANTED by handy man, assist gardener, understands Bees, making appliances.—SHORT, Hanley Castle, Worcester. f 19

WANTED, any quantity of British Beeswax, for cash or exchange.—R. STEELE, Wormit Works, Dundee.

"ALNWICK" FEEDER, best and cheapest for all seasons, rapid or stimulative. Price 6d. each; postage of one costs 3d., two 4d., six 6d., dozen 10d.—J. BALMBRA, East-parade, Alnwick. f 30

BEES-WAX, guaranteed pure, 1 oz. tablets, 1s. 9d. lb., £8 17s. cwt.; in bulk, 1s. 6d. lb., £7 15s. cwt.; samples, 3d.—TURNER BROS., Sandpit Poultry Farm, Croydon. e 87

CLOVER HONEY, good quality, 1 lb. Screw-cap Jars, 77s. gross, 21s. ¼ gross; ½ lb. ditto, 45s. gross, 13s. ¼ gross; Honey, in bulk, 48s. cwt.; samples, carriage paid, 8d. — Further prices and particulars from TURNER BROS., Sandpit Poultry Farm, Croydon. e 86

"CHAPMAN HONEY PLANTS."—Extra Strong Plants, to blossom 1908, 12 3s., 6 1s. 9d., package free; Seed, 6d. and 1s.—JOHN P. PHILLIPS, Spetchley, Worcester. c 34

WANTED, 1,000 Bee-keepers to try my Cottage Hive, with Frames and Sections, painted, 9s. 6d.; genuine "W. B. C.," with Frames and Sections, 15s.; above Hives without Frames and Sections, 6s. 6d. and 13s.; Section Racks, 1s. 3d.; with Dividers (metal), 1s. 9d.—SOUTHERN BEE-HIVE WORKS, Hellingly, Sussex. e 85

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

SECONDHAND HIVES, various, good makes, from 5s. each. List on application. Well painted, guaranteed healthy.—CHARTER, Tattingstone, Ipswich. f 51

"CHAPMAN HONEY PLANT" SEED, 3d. and 6d. packets, post free. — W. WOODLEY, Beedon, Newbury. e 72

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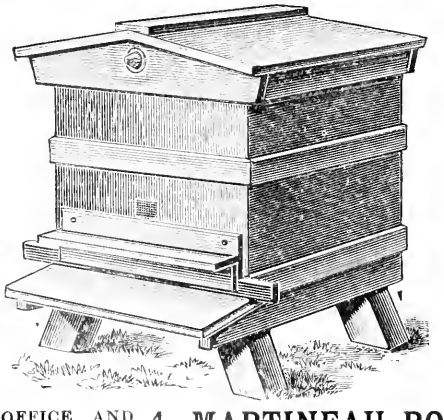

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The

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &C., AND W. BROUGHTON CARR.

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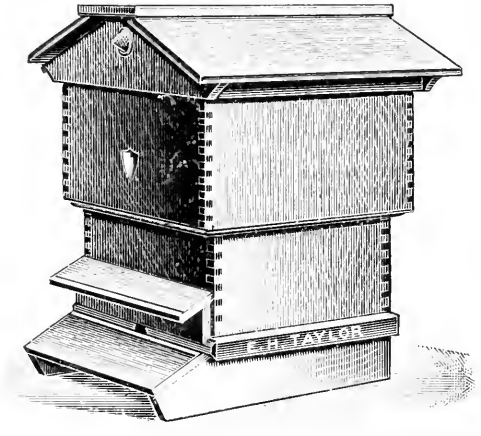

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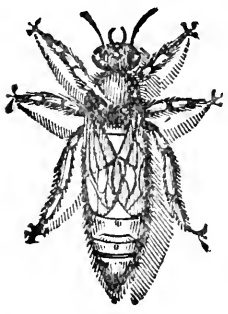

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Editorial, Notices, &c.

Obituary.

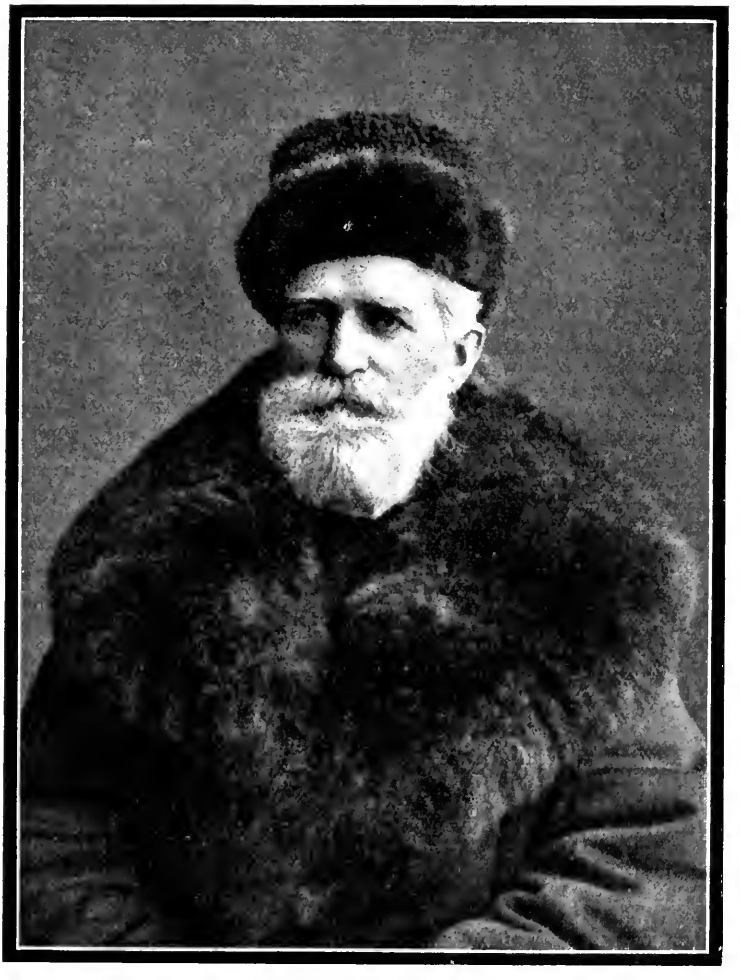
M. A. F. ZOUBAREFF.

We regret to have to announce the death, at the ripe age of 87 years, of M. A. F. Zoubareff, one of the leading pioneers of modern bee-keeping in Russia.

M. Zoubareff was born in 1821, and educated at the Imperial School of Jurisprudence, St. Petersburg, where he had the late M. Pobedonostseff, Procurator of the Holy Synod of Russia, as a fellow student, the latter being six years his junior, and whom he survived by eleven months. M. Zoubareff was a member of the Senate and a Privy Councillor, and retired after thirty-five years of Government service. He was also a member of several benevolent societies, and in the later years of his life devoted his leisure time to bee-keeping.

Owing to his wife's delicate health, he spent several winters in Switzerland, and we first made his acquaintance in 1883, when staying at Geneva with our friend M. Bertrand. M. Zoubareff was much interested in all appertaining to bee-keeping, and at that time was using the vertical "Berlepsch" hive. But after the many interesting discussions we had on the subject he decided to adopt our style of hive, opening at the top and having longer and shallower frames, as in the "Dadant" and "British" standard-frame hives.

On his return to St. Petersburg in 1884



MONS. A. F. ZOUBAREFF.

he wrote to M. Bertrand as follows:—"Thanks to the opportunity I had of making your acquaintance, my belief in bee-culture has revived. Reading your *Bulletin*, my visits to your apiary, together with our many conversations, and the meeting with the venerated Mr. Cowan, have decided me to give up the vertical hive, and adopt that with movable floorboard and opening from the top. I am now convinced that this system facilitates operations and enables the bee-keeper to carry on his business on a large scale with the maximum of profit. As a pioneer of the bee-industry in my country I am having such hives made." Referring to honey-extractors, he says:—"The 'Cowan' automatic extractor has served me as a model for the construction of a cheaper machine." One of these he subsequently sent us. It was constructed almost entirely of beechwood, and could be placed in a wooden barrel, and no doubt served its purpose well as a cheap extractor.

In our subsequent correspondence it was suggested that, as his eyes had been opened to the manifold advantages derivable from using hives of similar type to those adopted in England, America, and French-speaking Switzerland, he should start a propaganda in Russia. This induced him to bring out, in 1885, "Ptschelovodstvo posvjastchjaetsja sjelleskim outcshiteljam," a book of instruction especially intended for the use of schoolmasters. In this volume our appliances and methods are spoken of in complimentary terms, and the "British Bee-keepers' Guide Book" and its illustrations were laid under heavy contribution.

Bee-keeping in Russia has hitherto been carried on chiefly for the production of wax, a very large quantity of this being used in the manufacture of candles; and as the ritual of the Greek Orthodox Church (the Russian Church) requires that the candles used should be made of pure beeswax only, the priests are very particular with regard to this. M. Zoubareff also pointed out that, great as were the honey resources of Russia, by adopting the improved methods much more could be obtained. Even close to St. Petersburg, on the Lake Ladoga, he was able to secure enormous quantities of very fine honey, and we had an opportunity of tasting some of this, said to have been gathered from *Echium vulgare* (common viper's bugloss), a weed which abounds in the plains near St. Petersburg. We considered it very good, although inferior to that from clover or sainfoin. A second edition of his book appeared in 1892, and a third in 1900.

M. Zoubareff was a great admirer of British bee-keeping, and not only frequently alluded to it, but in 1887 he translated and brought out the "British Bee-keepers' Guide Book" in Russian, a second edition of which was called for in 1890. A third edition of this was published in 1891 by P. N. Kouleshoff.

Besides these works, M. Zoubareff published the following works:—"Myod kak peishcha e kak leakarstvo," in 1887; "Vosk ptschelini," in 1888; and "Tscherteshi Anglo-Amerikanskavo dvoiyaka," in 1892, the last being working drawings of an Anglo-American twin-hive, to which he became very partial. He was also a contributor to the *Bulletin d'apiculture de la Suisse romande* and to the BRITISH BEE JOURNAL, being one of our constant readers.

After the death of Professor Boutleroff, who was the first to use and recommend phenol as a remedy for foul brood, M. Zoubareff became editor of the *Russian Bee Journal* entitled *Rooskee ptchelovodnee liestok*, and for a number of years conducted the same with marked ability, and through it he was the means of popularising our methods of bee-keeping. We frequently corresponded with him, and although he only took to our methods after reaching the age of sixty-two, he lived to see the fruits of his labours in the extension of bee-keeping in Russia, and will be remembered as one of the leading bee-keepers of that country.

NEW LIGHT ON FOUL BROOD.

(*Concluded from page* 172.)

Dr. Maassen had also heard that colonies affected with *B. alvei* have cured themselves; but it is quite contrary to his own experience. On the contrary, he found this form of the disease quite as virulent as the other, and when it attacks sealed brood the colony succumbs very rapidly.

The latter form of the disease is not so prevalent in Germany as that which attacks the brood after it is capped over. Of 347 specimens of foul brood examined during five years' work, 294, or about 90 per cent., of the latter cases were found. In these Dr. Maassen always detected the spore-forming bacillus named by him *Bacillus Brandenburgiensis*, owing to the first specimen coming from the province of Brandenburg. This appears to be the same as Dr. Burri described as "difficult to cultivate," and to which Dr. Buttel-Reepen gave the name of *Bacillus Burri*.

In the previous report of his microscopical examinations Dr. Maassen had indicated that associated with these

bacilli he always found spirochæte-like forms, sometimes extremely thin, also others of corkscrew shape and much thicker, or whip-like wefts (*geisselzopf-ähnlich*). These were provisionally named *Spirochæte apis*, but on staining and further investigation he was enabled to define them as giant cilia or flagella of the above-named bacillus, similar to those found with *B. subtilis*.

It would be well to explain here that *B. Brandenburgiensis* belongs to the peritrichous forms of bacilli, which have their whole surface beset with flagella or cilia more or less thickly arranged. These latter consist of long, delicate threads of protoplasmic substance, which sometimes assume a spiral form, and vibrate to and fro and propel the bacillus. The shrinkage of the cell-contents during plasmolysis leaves the cilia unaffected. Unfavourable conditions cause them to be thrown off, as they are very sensitive to injury, and if this occurs they appear as separate organisms. Not infrequently the flagella become rolled up, or looped, before they are shed; they also appear as plaited wefts separate from the bacillus, and it is only by fixing and staining that their true nature can be determined. These giant cilia, or whips as they are sometimes called, and whip-like wefts appear in great numbers, and from the ease with which they can be fixed with formaldehyde or osmic acid, and their readiness to take up stains, they have a taxonomic value, and afford an easy means of diagnosing this form of foul brood. They are found in dead larvæ and in all cultures, and in one case in a comb that had been kept since 1885. Owing to the difficulty in getting this bacillus to grow in the ordinary alkaline media of the laboratory, it was at first not easy to determine the relation of the organism to the disease. After many trials, however, Dr. Maassen found two media in which the bacillus was easily cultivated, one being brain and albumen, and the other the juices of bee-larvæ, in which Cheshire had already in 1885 found spores, as well as the rods, to propagate readily. Both are agar-culture media. The Doctor goes very fully into details of the various cultures made with this bacillus in the different media, and the ease with which he was able to reproduce the disease by feeding with syrup or combs of pollen containing the bacilli or spores. *B. Brandenburgiensis* belongs to the anaerobic bacteria, and requires a temperature of 37 deg. to 39 deg. C. for its development. Spores are rapidly produced in both cultures and bodies of larvæ. They are spindle-shaped, much smaller than those of *B. alvei*, and are 1.3 to 1.6 μ long and 0.6 to 0.7 μ broad. Although they have germinated after being dried for twenty-two years, their vitality can be destroyed by subjecting them to superheated steam for fifteen minutes.

To bees this bacillus is pathogenic, and its pathogenicity is not affected even after two years of artificial cultivation. In cases where bees were fed with syrup containing the cultures, or pollen-cells infected with them were given to the colony, the disease showed itself in from six to ten days, and in four weeks' time a large number of sealed cells were found containing diseased or dead brood. Fresh cultures were easily made from these, and the bacilli and whip-like flagella abundantly reproduced.

The reason why the larvæ do not die prior to the cells being sealed over (as when *B. alvei* or *Streptococcus apis* is present) is owing to *B. Brandenburgiensis* not growing luxuriantly in the intestine of the larva, but only finding a suitable medium for development in the fatty matter of the body. The bacillus seems able to invade the body only from the alimentary canal just before the larva changes to a pupa; consequently death can only occur after the cells are sealed.

In company with *B. Brandenburgiensis* Dr. Maassen found in dead brood both *B. alvei* and *Streptococcus apis*, and along with these there were a great many other bacteria of a non-pathogenic nature.

In numerous cases where the characteristics of the mild form of foul brood were wanting *B. alvei* was discovered so attenuated by *B. Brandenburgiensis* that cultures of the diseased material could only be obtained with great difficulty. Although pure cultures of *B. Brandenburgiensis* could repeatedly be obtained, in some instances *B. alvei* got the upper hand in the struggle for supremacy.

Foul brood in which *B. Brandenburgiensis* is present is not confined to Germany, for Dr. Maassen found it in material sent from Italy and other countries. Latterly he has been able to convince himself that the same diseases exist in America, after examining a specimen of comb sent by Dr. Phillips, and stated by the latter to be what in that country went by the name of "American foul brood," and in which Dr. White had found a bacillus, which he called *Bacillus larvæ*. Dr. Maassen has identified this as *B. Brandenburgiensis*, and remarks that in the same material *B. alvei* was also proved to be present.

To sum up Dr. Maassen's important work, we find: 1. That three different organisms may produce foul brood, two of which are usually associated in different phases of the disease. These are *Bacillus alvei*, Cheshire; *Bacillus Bran-*

denburgiensis, Maassen (syn. *B. Burri*, Burri, *B. larvæ*, White); *Streptococcus apis*, Maassen (syn. *B. Güntheri*, Burri).

2. That when the disease attacks unsealed larvæ *B. alvei* is present, and in virulent cases it is also found in sealed brood.

3. That *Streptococcus apis* of "sour brood" is usually associated with *B. alvei*.

4. That *B. Brandenburgiensis* is only found in the sealed larva just before it changes to a pupa, and is frequently associated with *B. alvei*.

5. That the two bacilli are antagonistic to each other, and are constantly struggling for supremacy, sometimes the one and sometimes the other getting the upper hand.

6. That other bacteria are sometimes associated with *Streptococcus apis* which kill its cocci, so that bees are able to remove the dead larvæ, and in some instances during a good honey-flow the disease may be held in check or the colony become for a time cured.

7. That the disease in which either or both bacilli are present is equally infectious.

Before closing this brief summary of Dr. Maassen's work, we may point out that there is no mention of black brood, called in America "European foul brood," and in which Dr. White stated that he always found *B. alvei*. It is very evident that this is a mistake, because the characteristics of foul brood in which *B. alvei* is found are sufficiently distinct from those of black brood, such as we find them in specimens of the disease that has recently appeared in Europe. From information in our possession, not only is *B. alvei* absent, but it would appear that bacteria have no pathogenic relation to this disease. We mention this fact here because recently correspondents have confused foul brood and black brood. From Dr. Maassen's investigations it is evident that the same bacteria are found in foul brood in America as in Europe; therefore there is no justification for differentiating the diseases as "American foul brood" and "European foul brood," and to do so must inevitably lead to confusion.

ESSEX BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The twenty-ninth annual meeting of the Essex B.K.A. was held at the Devonshire Hotel, Bishopsgate Street, London, E.C., on Wednesday, April 8. In the absence of Mr. L. Belsham Mr. W. P. Jobson presided. There was a good attendance of members, including Mr. C. F. Harding and Mr. Stanley L. Wilton (vice-president), Mrs. E. E. Ford and Mrs. Chapman, Messrs. F. A. Quick, W. Blackwall, J. Chambers, R. Betts, T. W. White, L. Goffin, and the secretary. Mr. A. W. Salmon, secretary of the newly-formed Suffolk B.K.A., was also present. The annual report and balance-sheet were passed unanimously.

A vote of thanks was passed to the late president, Lady Warwick, for the interest she had taken in the work of the association for the past twelve years. Lady Gwendoline Colvin has consented to fill the vacant position.

Owing to the increase of members in Suffolk a separate association had been formed for that county. This had entailed extra expense, which resulted in a deficit of £1 9s. 4d. on the year's working. It was therefore decided to discontinue giving prizes for honey at local flower shows, and to substitute three prizes for members introducing most new subscribers in the year.

The report stated that, notwithstanding the fact that 1907 was one of the worst seasons on record, the membership had increased, and with the object of still furthering the membership arrangements had been made for the hire of a beautiful set of lantern-slides (prepared for lecturing by Mr. W. Herrod, of Luton) to members for a nominal fee of 2s. 6d.

At this point Mr. A. W. Salmon (secretary of the new Suffolk B.K.A.) asked that the association should bear the expense of printing the report of the Suffolk B.K.A. this year, to which the secretary replied to the effect that the Suffolk branch of the dual association had always been a drain on the funds of the Essex division, and that they should not be called upon to accede to Mr. Salmon's request. This view was shared by the chairman, who thought Mr. Salmon could hardly be serious in making it. The matter then dropped, and the meeting closed with the usual votes of thanks.—G. R. Alder, Secretary and Treasurer, Rawreth, Wickford, S.O., Essex.

BUCKS COUNTY B.K.A.

The annual general meeting of this association will be held at the Congregational Schools, High Street, Aylesbury, on Saturday afternoon, May 9, at 5 o'clock. All persons interested in bee-keeping are cordially invited to be present.

During July the association will, in connection with the Bucks County Education Committee, conduct a bee van-tour of four weeks' duration. A full itinerary will appear in the report.—E. Scott Walker, Hon. Secretary, 5, High Street, Slough.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

WINTER IN SPRING.

[7100.] The agricultural and apicultural outlook is not enticing just at present, as we have had a sharp snowstorm lasting up to date, while keen frosts have blasted our hopes of early pollen-gathering. Here and further north I hear of stocks succumbing in considerable numbers, and very many others are run down to a mere handful of bees. Bad results only could have been anticipated after such a miserable season as last year proved. Up to date scarcely a chance of progress has been given the strongest stocks, as when the weather was good pollen-bearing flowers had not bloomed; now, when they should be in full flower, the weather is thoroughly wintry, so much so that I have not only done nothing in the way of spring-cleaning, but I have not even made any examination of the brood-nest. Still, we do not know what a day may bring forth, and everything may be humming its merriest in a day or two. Summer may be with us almost immediately, and this year, when it comes, I trust it may be to stay. Some old hand advises, "Aye be cheery!" and I think the advice is a wise hint. Bee-keepers build extensively on hope. To-morrow the sun may be shining, although it is cloudy to-day; and next week bees may be revelling in happiness, although to-day the landscape is coated with a winter suit of snow. One thing is certain, every hive surviving till now, headed by a good queen, can still be made a valuable asset if due care is taken in building it up.

Buttercups.—I will take special notes of how bees treat these flowers as soon as they bloom, but I had no doubt in including the name in my list of spring pollen-bearing flowers. On consulting one authority I find support, as the buttercup is placed beside the dandelion in a list of polliniferous plants, and both classified under the heading of "*much.*" Another authority describes the ranunculus as a genus of plants having five sepals and five petals, with a nectariferous pore at the base of each petal—implying that it is also a *honey*-plant. Personally, I do not set great store on it as a source of supplying either honey or pollen, so that Mr. Woodley and I do not greatly differ in our opinions of its intrinsic value.

Narrow Sections.—Can sections built in a space of 5 in. by $4\frac{1}{4}$ in. by $1\frac{3}{8}$ in., constructed between dividers, and anything like truly built, possibly weigh 18 oz.? My attention was drawn last season to three racks, apparently well finished, which should have each weighed 21 lb., but the scales showed the net weight of each to be $16\frac{1}{2}$ lb., 17 lb., and 19 lb. How does that sound in a section which was to advance us at least *one* step nearer perfection? When the controversy was on some years ago, I pointed out as the chief objection in my eyes that they would yield "light-weight" sections. My prophecy must have come true, for here, after years of patient research (for which I honour him), the one advocate of the change finds it necessary to turn his $4\frac{1}{4}$ in. into $4\frac{1}{2}$ in.

Fifty-one Summer Bee-flowers.—Alsike, balsam, beech, broom, borage, buckwheat, campanula, charlock or wild mustard, columbine, cornmint, cotoneaster, cyclamen, clover, elm, figwort, field-peas, foxglove, golden rod, hawkbit, hazel, heliotrope, horse-chestnut, jessamine, lilac, lily, lime, lucerne, lupine, lychnis, malva, maple, marjoram, melilotus, monkshood, mustard, raspberry, ragwort, rhododendron, saxifrage, scabiosa, spurge, St. John's wort, speedwell, spiræa, strawberry, sweetbriar, teagle, thyme, trefoil, tulip, viper's bugloss. Properly I ought to have included *Erica tetralix* and *Erica cinerea* in the list, but I prefer to think of all heathers as part of the autumn supply to be given later. Broom is an excellent pollen plant. Bees positively roll in it, and come home laden not only in the pollen-baskets but all over the body. Our forefathers delighted in seeing the young bees thus coated with gold, as stocks showing a large proportion of these juveniles were certain to prove a success. Of the other plants enumerated wild mustard and raspberry yield bountiful supplies of honey; but the prince of them all, and, indeed, the only one well worth mentioning, is white clover. Where it is abundant bees leave other sources almost untapped. All the world over, in every clime, this plant forms one of the chief staple sources of supply, and yields a honey second to none. Even a lover of good honey might tire of many of the choicest samples used daily, but good clover-honey never offends the palate when taken as a regular article of diet.

Some Bee-sounds.—Bees made queenless convey a sense of their loss not only by their agitation, but also by the sad wail-

ing sound they emit—a sound made at no other time and for no other cause. The joyful shout of "Home, sweet home!" emanating from a swarm when the signallers have "wired" to all corners of the widely-scattered forces that they have found the entrance, is unique of its kind, and so pronounced is its intensity that every head of the 30,000 workers is instantaneously pointed in the one direction. If robbing is going on, the knowing hand detects the predatory note, and with eyes shut can march to the particular hive affected. The swarming note is a sound apart from any other in the apiary. There is no mistaking it, even at a considerable distance. A bee in a passion makes a short, sharp, spiteful sound, full of ire and venom. One crushed emits a melancholy moan. Imprison a bee, and you have a new part of its vocabulary. Rouse the ire of a colony, and you have a variety of "words" blended in a war-song that the dullest understanding has no difficulty in reading instantaneously as a gage of battle. Strew some liquid honey in a quiet corner, and mark the notes of content and joy uttered by the finders. The gay and glad abandon with its merry hum during the playspell of the first flight has a particularly pleasing and melodious charm. Inside, even at night, peculiar sounds are quite common, which are heard nowhere else. The "peep, peep" of an imprisoned virgin and the piping of her elder sister are very distinctive. Queens fighting also emit a marked note. These sounds, counting a baker's dozen, are only a few of the many specimens of our honey-bees' "talk."—D. M. M., Banff.

ROSS-SHIRE NOTES.

BUILDING UP FOR THE HARVEST.

[7101.] Apiculturally, things are very backward here, and a preliminary overhaul on May Day confirmed our fears as to spring-dwindling. Out of fourteen stocks examined, about half could be described as satisfactory, the remainder ranging from medium to positive weaklings, with only one frame of brood. We must go back to 1904 for a parallel to the present conditions.

Then, as now, the primary cause was unfavourable weather during the previous season, leading to early cessation of brood-rearing, so that autumn-reared bees were all too few.

An unfavourable March retarded the production of new life and helped to bring the adult bees to an untimely end, while the snowstorms and killing frosts of April accentuated the ills that bees and bee-men have to bear in common.

So much for cause and effect. Our concern now is to find and apply the remedy. Here, at least, the worst is past. Although hives are bare of bees, the inmates are mostly young, the queens prolific, and stores abundant, so there is hope for us yet.

In former years the widely-varying conditions of individual hives were a constant source of annoyance and loss, the strong, early colonies swarming long before honey came in, while the backward ones always swarmed during the height of the honey-flow.

But, by attention to equalising, natural swarming has been reduced to the vanishing-point. In levelling up, however, I would deprecate the practice of exchanging combs of brood at this early date. To begin with, class the apiary into two divisions—strong and weak, the latter, if well stored, to be warmly wrapped up and left undisturbed for a few weeks.

The strong colonies can be forced on through uncapping their sealed stores, and later by steady feeding, so that all are overflowing with bees by the opening days of June.

On a warm day, when bees are flying freely, make an artificial swarm from the strong colony, leaving the queen with three frames of brood and all adhering bees on the old stand. The removed box of brood is now placed above one of the weaklings, which by this time has developed a fair brood-nest of its own. The lot on foundation is to be treated just like a new swarm—carefully fed and brood spread at intervals, so that it may build up fast for the honey-flow.

But the doubled stock, if stores are ample, needs no encouragement whatever. The hitherto pent-up energies of the queen will be found to fill those frames solid with brood, to turn the former weakling into an enormous colony as if by magic.

I recollect on one occasion placing two standard-depth boxes of brood over a backward colony, and the queen bred from top to bottom of that triple-story hive.

Early last year I had a colony robbed out and almost destroyed. Spring-dwindling set in, and the queen had only two patches of brood when June came. I meditated destruction, but relented, and gave her a chance in the shape of a body-box of hatching brood with adhering bees. The queen filled those frames simply solid with brood and eggs. That colony gave more clover-honey than the average of the apiary, and beat all the rest at the heather.

Those who wish to secure a good all-round yield with the least expenditure of time and trouble will have no reason to regret giving this simple method a trial. —J. M. Ellis, Ussie Valley, May 2.

A WINTRY APRIL.

[7102.] I am sending you a photo of my bee-hives, taken on April 24. You may think it possesses interest enough for readers of the B.B.J. (to which I am a regular subscriber), as giving a specimen of weather during the last week of what is usually regarded as a month when bees are filling supers with honey in our county. Bee-keepers in my neighbourhood have experienced an exceptionally bad season all through 1907 and during the first four months of the present year. Nearly every bee-man with whom I have spoken has lost several stocks, while none have entirely escaped. I join in the general hope for better luck to all of us in the coming season.—T. GATHERCOLE, Bayford, Herts, April 30.

MY APIARY AT BAYFORD, HERTS, ON APRIL 24, 1908.

AMONG THE BEES IN ESSEX ON APRIL 24, 1908.

[We gladly reproduce our correspondent's photo, as placing on record the phenomenal conditions prevailing so far

south as Hertfordshire on the date given. The second photo—almost equally wintry in appearance—shows the apiary of Miss M. Wilson, Dunmow, Essex, on the same day, and forms a suitable companion picture. The above are not the only photos which have reached us from readers located further north, all telling the same tale of a wintry April all over the kingdom.—EDS.]

BEES AND FORMIC ACID.

IS FORMIC ACID ADDED BY THE WORKER-BEE TO HONEY AS A PREVENTIVE OF FERMENTATION?

[7103.] On the 24th ult. there appeared in the *Times* a two-column article on "Bee-keeping as a Rural Industry." Inasmuch as the article was a general encouragement to bee-keepers, and alluded in pointed terms to the important and useful work done by the B.B.K.A., I have nothing but praise for it. But it contained a statement on a matter of bee-physiology which, although likely to interest the general public, is to the best of my belief entirely erroneous, and as the *Times* would hardly afford a chance of discussion in its pages, I hope I may be allowed to refer it to the judgment of the readers of our JOURNAL. It ran as follows:—"Most people imagine that the sting-apparatus of the bee is solely to act as a weapon of offence and defence. The truth is that its primary use is widely different—viz., to inject into each filled cell of honey before it is sealed a minute drop from the poison-bag. The chief ingredient of the liquid is formic acid, which acts as an antiseptic, and prevents fermentation, which would otherwise occur in the honey."

In the first place, unless corroborative facts have recently come to light, this is no modern discovery. Were it worth while to search, I have no doubt that I could unearth a similar statement in some treatise or article where I read it several years ago, joined, if I remember rightly, to a suggestion that the worker uses its sting as a polishing-tool when fashioning the comb-cells. But where is the corroborative evidence? There must be many observers besides myself who season after season and day after day have watched this work. I, for one, have never seen the sting or end of the abdomen applied to the cells, nor did I ever see a worker place itself in a position for introducing the poison. I doubt, moreover, whether, in view of the formation and working action of the parts of the sting, the discharge of poison could be so regulated as to deposit at will so minute a portion as would meet the case.

It has been stated, I believe, that traces of formic acid have been found in honey; but, even if this be so, it is a slender foundation on which to build the hypothesis of deliberate addition. Every bee-keeper knows that when honey has been properly ripened either within the hive or elsewhere it keeps indefinitely in good condition, while, on the other hand, when the superfluous moisture, that was a constituent of the nectar when stored in the cells, has not been sufficiently removed by evaporation, the honey finally ferments. This fact renders the advantage of formic acid, even should it be present, very problematical. The better estimate of the origin of the sting in the honey-bee seems to be that it is a development corresponding to that of the ovipositor, or perhaps of the ovipositor itself. This would account for the absence of the sting in males, and perhaps for the difference in its shape as found in the perfect and imperfect females. It has seemed to me, when watching the exclusion of eggs—I cannot say the *depositing*—by a queen on my hand held to the level of my eyes, that the peculiar curve, in her case existent, should be an assistance in deposition; and, as we all know, the fertile worker strews its eggs at the bottom of the cell in irregular fashion.

I had thought to close my remarks here, but am tempted to quote from page 42 of the recent English edition of Dr. von Buttel-Reepen's "Are Bees Reflex Machines?" published by the A. I. Root Company, and just to hand, for I see that it touches on my subject-matter. He writes:—"Müllenhoff's statement that, in the cells thus formed, a drop of the secretion from the poison-gland is added for the preservation of honey, 'gathered not for immediate use,' is anthropomorphically [? *not*.—H. J. O. W.] quite clear, and does not correspond with the facts of the case. This statement has been proven untenable by Schönfeld and by Planta through chemical analysis." The references are, respectively, C. Müllenhoff, "Ueber die Entstehung der Bienenzellen," Pflüger's "Archiv. f. d. ges. Physiologie," Vol. XXXII., Bonn, 1883; Gravenhorst's *Illust. Bienenzeitung*, Vols. XI. and XII., Braunschweig, 1893; and *Schweizerische Bienenzeitung*, Nos. 5 and 6, Aarau, 1893. Hence it seems that the presence of formic acid in honey was asserted some twenty years ago, and authoritatively denied, and I am afraid that the writer of the *Times* article will find it difficult to substantiate his "modern discovery." But I hope that if, as is probable, he should be a reader of the B.B.J., he will not be deterred by my friendly arguments from the attempt, for the subject is by no means wanting in interest both to chemists and bee-keepers.—H. J. O. WALKER (Lieut.-Col.), Leeford, Budleigh Salterton, May 2.

CARBOHYDRATES.

[7104.] In reading through "Cappings of Comb" in B.B.J. of April 16, it appears to me that Mr. Crawshaw's greatest concern is to show that acetic acid and cane sugar should be entirely different in their properties, although apparently very similar in composition, as he has endeavoured to prove. That there is a considerable difference I think no one would care to deny, and it arises from the difference in their constitution. It would be out of place for me to enter upon a discourse on the constitutional structure of acetic acid or sugar, or even upon that of glycerine and the fatty acids, in the columns of the B.B.J.—a subject so entirely technical and abstruse would not be understood by the majority of your readers.

To illustrate my point, I will give an illustration. It is this: A bee-hive consists of so much wood, iron, and paint, and in this instance we will suppose that two hen-coops could be built out of the materials required for one bee-hive. But there is very little resemblance between the bee-hive and the coops because of the difference in construction. In the same way it may be said the atoms in acetic acid are so arranged as to form acetic acid, and the same applies to cane sugar and any other chemical compound. If Mr. Crawshaw desires to know the exact constitution of any of the compounds we have discussed, I would refer him to some modern work on organic chemistry. He will then also learn that every chemical compound has a constitution peculiar to itself, although it is possible to classify them into groups.

Mr. Crawshaw says:—"Mr. Fisher fails to explain exactly what constitutes a carbohydrate," and then he goes on to give his explanation in almost the exact words I used in my article on "Honey and Fats"! I fear our friend did not follow my advice and read that article; by doing so he will see my definition of a carbohydrate.

Mr. Crawshaw endeavours to make me contradict myself by quoting me. It is surely right to say that the various carbohydrates are different from each other in their properties, otherwise how could we distinguish them? Nor are all capable of being acted upon by the digestive juices. We prefer to wear cotton on our backs to using it as an article of food, because, although a carbohydrate, it is an indigestible one.

Surely Mr. Crawshaw will agree that it is possible to convert one carbohydrate into another, and maintain that the carbohydrates gathered by bees are converted by them into honey, which is also a *carbohydrate!*

Now I will quote Mr. Crawshaw. He says:—"There is no real comparison between bear and bee, however much attached one may be to the other at times!" (B.B.J., January 16, page 27). That was in reply to my comparison of the Polar bear to the bee during hibernation! When and where, I ask, do bees and Polar bears become attached to each other? Did an escaped specimen from Barnum and Bailey's show make a raid upon Mr. Crawshaw's apiary? Or was Mr. Crawshaw misquoting me for the sake of a joke? But perhaps our friend has some other name for it!—S. R. P. Fisher, pharmaceutical chemist, Liverpool, April 28.

Queries and Replies.

[3694.] *Queens Ceasing to Lay in April.*—On examining a stock of Italians which is fairly strong in bees, I failed to see the queen, and I could find no eggs or unsealed larvæ in the combs. There was plenty of capped brood, which was healthy, but it was evident that the queen had not been laying for nearly a fortnight. The bees were not more numerous than they were three weeks before. Is it probable that the queen stopped laying because of the snow and very cold weather, or do you think it likely that the bees have "balled" her, and that the hive is queenless? No queen-cells were to be found.—S. C. M., St. Leonards-on-Sea, May 1.

Reply.—It is fairly certain that some signs of queen-cells would be seen if any accident had caused the death of the mother-bee. The presumption, therefore, is that the cold has caused a cessation of breeding for the time. A few days of warm weather will decide the point, and prove whether the queen is still in the hive. The only thing that could explain the absence of queen-cells would be that by some accident the queen had been ruptured while you were examining the combs earlier on. This would explain the stoppage of ovipositing and the failure to build queen-cells.

[3695.] *A Beginner's Queries.*—I should be greatly obliged for advice, &c., on the following:—Last month my hives were examined by the expert. He said there was foul brood in one and the bees dying out. I starved the affected bees for forty-eight hours, and on the evening of Thursday last put them into a new hive, with everything fresh, and fed on warmed medicated syrup. The bees only covered three frames. They remained in the hive all next day and night, and the day after being very warm, they all

poured out of the hive on to the alighting-board, flying about and making such a noise that my next-door neighbour sent in word to say my bees were swarming. I went out and found them as I say. The queen, too, was out on the board. I got the smoker and smoked her in again, and gradually all the bees followed. Since then all has seemed to be going on well, and I am feeding them. 1. I should like to know the reason why the bees came out like that after being in the hive quietly for a day and two nights? 2. As the bees are so few in number, would it do any harm for me to join them with a rather weak lot of bees? I thought the two lots would make one strong hive. If I do this, should I remove the queen of my small lot before joining? Also, would there be risk of extending foul brood by doing it? I am in hopes my forty-eight hours' starving in the dark may have got rid of it. 3. Could I do anything else to build up the small stock? I am only a beginner, with three hives. I have been rather unfortunate in getting foul brood, but hope the measures I have taken may get rid of it. I have taken your excellent paper since I began bee-keeping, and find it a great help.—(Mrs.) A. G., Rayne, Essex, May 2.

Reply.—1. No doubt the bees were enticed outside by the increased warmth of the day mentioned. It is quite common to see bees in a stocked hive come out in such numbers in the middle of a very warm day as to convey the impression that they are swarming. 2. It is advantageous to join up weak lots of bees in spring, if both are healthy, and when this is done the best queen should be preserved to head the doubled stock. 3. Nothing beyond keeping warm and continuous feeding until honey is coming in freely from natural sources.

[3696.] *Hiving Swarms.*—Would you be good enough to tell me, through the B.B.J.: 1. Is it advisable or not to hive a swarm about 6 ft. or 7 ft. away from the parent stock (with a cherry-tree between)? 2. In taking a swarm, does it matter if there is a hole in the top of the skep? 3. Ought the floorboard of a hive to be painted inside or not? Apologising for troubling you with such elementary questions, I send name, and sign—Bee, Lewes, May 3.

Reply.—1. A swarm may be hived any distance away from the parent stock without serious harm following, but in your case it will be quite safe if hived as stated. 2. You must cover up the hole in the hiving skep temporarily until the swarm is transferred to the frame-hive. 3. No; it is all the better if painted on the underside, but not on the top.

Bee Shows to Come.

June 30 to July 4, at Newcastle (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Schedules from E. H. Young, Secretary B.B.K.A., 12, Hanover Square, London. **Entries close May 14.**

August 5 to 7, at Halifax.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. Schedules and form of entry from John Maughan, Secretary, Blake Street, York. **Entries close June 27.**

August 12 and 13, in The Park, Taunton.—Somerset B.K.A. Annual Show, in conjunction with that of the Taunton Deane Horticultural Society. Increased Prizes. Sixteen classes, including eight open and two free. Schedules from L. E. Snelgrove, Hon. Sec., Cromla, Locking Road, Weston-super-Mare. **Entries close August 7.**

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

A. M. T. (Seacroft, Leeds).—*Wax-moth Ravages.*—The web-like structures seen in comb are the protected passages formed by larvæ of the wax-moth. It is no use your trying to remove these tough moth-ways, and preserve the combs in so doing; the combs so affected must be melted down for wax or destroyed, if not worth troubling over. Full particulars, with illustrations of the moth, its larva, and the damage it does to combs, will be found in the new edition of the "Guide Book."

Suspected Combs.

A. D. B. (Kent).—In the interest of the bee-club you represent, you should advise your fellow member to give the bees of both stocks—from which samples of comb were taken—a short shrift, and burn the lot! Nothing is said about the present strength in bees of the hives referred to, but we may naturally conclude that both are weak, and if so it is not worth while trying to save them. The sample from No. 1 hive shows the stock to be absolutely rotten with foul brood, and the other is not very much better.

Lemo (Bromsgrove).—The general appearance of comb, with dead bees lying head foremost in cells, plainly points to starvation as the cause of death. There is no foul brood in sample sent.

Beginner (Buckley).—The stock is badly affected with foul brood, and being "weak in bees," as stated, it is useless trying to cure. We advise you to burn the bees, combs, and all loose contents of hive.

*** Some Letters, Queries, &c., are unavoidably held over till next week.*

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PRIME NATURAL SWARMS, from guaranteed healthy Bar-frame Colonies, for sale this season, as usual. As supply will be limited, please order early. 12s. 6d. and 15s.—PERCY WILKINS, Letcombe Regis, Wantage. f 80

SWARMS.—Notice, I beg to say all Swarms are sold for the coming season.—WM. WOODLEY, Beedon, Newbury.

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COMFORTABLE APARTMENTS for brother Bee-keepers visiting Clent. Terms: Week-ends, 5s.; or full board, 3s. per day.—COAKES, Moors Cottage, Clent. f 84

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Special Prepaid Advertisements.—*Continued.*

CASE of 2 in. A. I. Root's No. 1 4-way Sections (1,000) for sale, to clear, 18s.—L. GOFFIN, Wakes Colne, Essex. f 76

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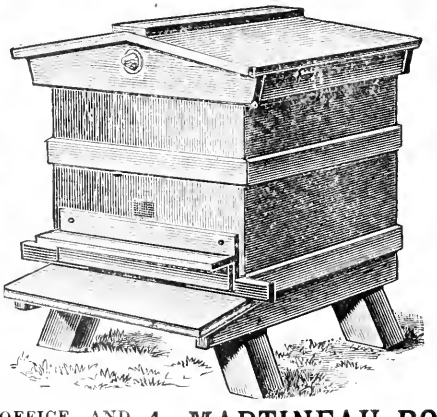

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The

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AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR.

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

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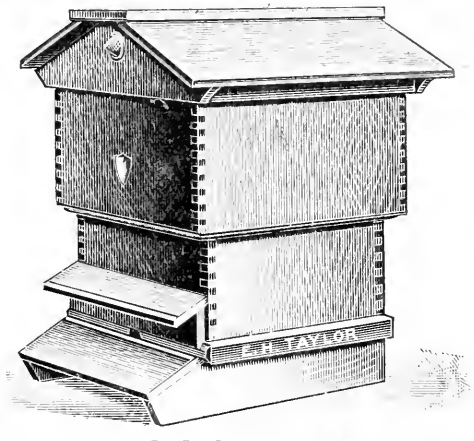

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OFFICE: 8, Henrietta-street, Covent Garden, London, W.C.

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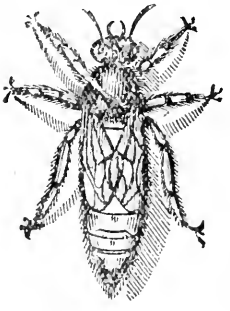

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Editorial, Notices, &c.

WHAT TO DO WITH OUR GIRLS.

A UNIQUE EXHIBITION.

An exhibition under Royal and distinguished patronage was opened at Princes' Skating Rink, Knightsbridge, London, on May 11, and will continue till May 30. The exhibition is organised in connection with "The *Girl's Realm* Guild of Service and Good Fellowship," and is in every respect a unique one of its kind, inasmuch as daily demonstrations are to be given in every kind of employment suitable for gentlewomen. Some seventy trades are represented, in all of which skilled ladies are seen busy at work, and ready to afford information and advice to girls wishing to engage in their several occupations, among them being lady gardeners, poultry-farmers, bee-keepers, bookbinders, box-makers, weavers, nurses, motor experts, metal-workers, animal breeders, and kennel-maids. Art is represented in every shape and form: there are lace-workers showing dainty pieces of embroidery, artists in water-colours, oils, and black-and-white, dolls' dressmakers, wood-carvers, bead-workers, painters of velvets and satins, experts in fine needlework and in the preparation of furs and skins, confectioners, wallpaper designers, &c.; and the answer given at every stall is that women's work does really pay. According to a report furnished to a Press representative, we learn that kennel-maids can get from £30 to £50 a year, and hold situations as members of the families by whom they are employed; while gardeners are able to earn as much as 8s. a day, and mix as equals with their employers. For poultry-farming a capital of anything from £50 to £500 will make a lady independent, and she can expect to build up a good business, especially in the North of England. There are openings for women as makers of fishing-flies, and a special feature of the exhibition is a demonstration of this class of work.

The many ladies who are now taking a keen interest in bee-keeping as an outdoor pursuit will find much to interest them in apiarian matters, popular works and periodicals devoted to bee-craft being displayed on the bookstall.

Among other attractions connected with bee-keeping, we are glad to see that Messrs. Abbott Bros., the well-known appliance manufacturers of Southall, have erected a very pretty stall, in which are displayed hives and bee-goods of various kinds suitable for ladies' use. The attendant in charge will give all information required by visitors, and explain how the various appliances are used.

The entire exhibition is well calculated to show in the most practical way "what to do with our girls."

SURREY B.K.A.

ANNUAL MEETING.

The annual general meeting of the Surrey Bee-keepers' Association was held at the Technical Institute, Redhill, on Saturday afternoon, April 25. W. Welch, Esq., J.P., C.A., presided over a large attendance of members, including Messrs. W. F. Reid, W. Oram, A. Seth-Smith, G. B. Bisset, J. Grimwood, C. T. Overton, A. Webster, W. Palmer, T. Earl, A. E. C. Mumford, H. A. Cary, M. Wood, F. M. Gill, Ed. Bontoft, F. Bowers, F. Perigal, A. J. Amos, G. Butler, E. Skidmore, R. Peters, F. J. Bernau, W. E. Hamlin, C. B. White, and others, with Mr. F. White, who took the place of his father, Mr. F. B. White (hon. secretary), who was prevented from attending through illness.

The Chairman moved the adoption of the report and balance-sheet, and in doing so said since the association was started in 1896 it had been going on steadily and increasing in numbers on the whole. There was a marked decrease in the number of skeps examined, but owing to the exceptionally bad year a number of stocks were found dead. One of the great things the association was trying to do was to stamp out foul brood, and he was happy to say that cases of foul brood were decreasing; in fact, they had reduced it from 12 to 2¼ per cent.

The report and balance-sheet were adopted.

Mr. Seth-Smith, in proposing a vote of thanks to the Surrey Education Committee for the grant of £150 made for the purpose of carrying out educational work by the association, and for the gratuitous use of rooms for the annual and council meetings, said he did not know how the association would have got on if it had not been for the great financial help from the Education Committee. It had enabled them to give lectures and demonstrations, and had kept them in a sound financial position.

The vote was carried with acclamation, and the Chairman, in returning thanks on behalf of the Surrey Education Committee, said a great deal of money passed through their hands, and the amounts were always carefully examined to see if they got their money's worth, and there had never been any hesitation in passing this grant, because all the members believed that their money's worth was obtained.

The executive council were re-elected,

as was also the hon. secretary, Mr. F. B. White.

Mr. W. F. Reid gave some interesting particulars of an international congress of bee-keepers to be held at the Franco-British Exhibition, in which bee-keepers from other countries and the Colonies were being asked to take part. Lord Avebury would preside, and they could not find in the whole world a better man to direct the deliberations of such a congress.

The Chairman proposed a vote of sympathy with their hon. secretary in his illness. Their secretary, he said, gave his whole time and attention to the work, and carried it out in a whole-hearted way, and they were exceedingly sorry he was laid aside by illness.

The vote was carried, and the annual meeting closed.

ISLE OF WIGHT BEE-FUND.

In connection with the above fund it may be well to print the full list of donations in cash received up to date by the treasurer, Colonel Walker, Leeford, Budleigh Salterton, Devon, who will be glad to receive further contributions of 1s. and upwards:—

	£	s.	d.
Mrs. Malsey Spencer	5	5	0
British Bee Journal	5	0	0
The Dowager Lady Jenner	1	1	0
General Sir Stanley Edwardes	1	0	0
Col. H. J. O. Walker	1	0	0
L. S. Crawshaw	1	0	0
F. W. L. Sladen	0	10	6
Alderman Sillico	0	10	0
Rev. S. Rashleigh	0	10	0
,, Leslie Morris	0	10	0
,, Canon Phillips	0	5	0
P. W. Hewett	0	5	0
J. Pearman	0	5	0
Miss Pittis	0	2	6
J. M. Ellis	0	2	6
C. Reed	0	1	0

ROYAL AGRICULTURAL SHOW.

IMPORTANT NOTICE.

We are glad to announce that, owing to the adverse weather of the early spring and to date, there will be an extension of the time for closing entries at ordinary fees for the Royal Show at Newcastle (bee and honey department) until Thursday, May 28.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of April, 1908, was £4,156.—From a return furnished to the British Bee Journal by the Statistical Office, H.M. Customs.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[7105.] The long-delayed spring came in with May Day, and the cold, inclement winter weather has at last given place to a spell of summer heat. The thermometer may be said to have gone up by leaps and bounds. It is the boast of Americans that with one rail ticket you can pass from winter to summer, but now here in England we have passed from winter to summer in a few hours without a ticket or moving from home. The heat-wave will no doubt verify the saying, "One can almost see things grow"—indeed, the trees and hedges are putting on an ever-changing mantle of green in many shades, and the welcome sound of bees humming while busy at work is once again heard. Bee-forage is also extending daily, the bright yellow of the dandelion showing plentifully in the meadows, while the anemone and wild cherry are blossoming in abundance in the woods.

Bees and Buttercups.—I am obliged to Mr. Kent (7095, page 177) for his letter. His bees would probably be working on the celandine. The common buttercup in our district has only just begun to show through the ground in pastures and waysides. I have seen bees every spring work on the yellow celandine, but never on the buttercup. To show that soil may have some influence on the production of honey in plants of the same kind in different localities, I may mention that Mr. R. Brown (Somersham) told me his bees had one season been very busy working on the flowers of the common withwind or bindweed (*i.e.*, wild convolvulus). Now, I had observed this particular flower for many consecutive seasons, but never saw a bee on them, no matter how abundant the bloom.

Sections.—I notice that American bee-keepers have recently been discussing the subject of sections. The question is the advantage or otherwise of the split-top section. My objection to this is the visible raw edge of the foundation show-

ing through the split top. I have never ordered sections of this kind, and when any such split-top sections have been sent me in mistake I have always used them with the "split" at the bottom. Sometimes I have to purchase sections of honey to fill orders, and when those with the split top have been among them I have not seldom pasted labels on the tops to hide the disfigurement of the upper side resulting from the split top. My own plan of fitting up sections for use is to first cut the foundation to size carefully, so that when fixed at the top by means of the little implement introduced many years ago, consisting of a small wooden wheel fixed in a handle, the foundation touches the two sides of the section, and is fixed at the top, while reaching to within ¼ in. of bottom. With sections so fitted and racks made square we have had thousands of sections well filled and sealed and built to the wood all round, with only small pop-holes at corners, if any.

Glazing Sections for Market.—This is a point which should in my opinion always be done. It means work; but if one hopes to reach the highest point of excellence in producing the best comb-honey, and then still add to its attractiveness for market, there is nothing so useful as glazing the sections before sending them to the retailer. A glance in the windows of honey purveyors in London will convince the most sceptical of the truth of my assertion. Bee-keepers must endeavour to keep their product in A1 condition until consumed. If this is done we shall have a growing demand. The last bad season has cleared out all the old stock. We now start afresh.—W. Woodley, Beedon, Newbury.

BEES AND FORMIC ACID.

[7106.] As I have, through an answer to a communication from the editor of the *Times*, replied to Lieut.-Colonel Walker's remarks on a part of my article in the above-mentioned paper, all I need do in view of the Colonel's letter (7103, page 188) in your last issue is to say two things for the information of your readers. First, I used the word "modern" in a comparative, and therefore a somewhat indefinite, sense. Secondly, I founded my statement about the worker-bees injecting minute quantities of sting-poison into the honey-cells on what I believed to be sufficient authority. In vol. ii., page 587, of Cheshire's "Bees and Bee-keeping" there is the clearest affirmation on this point, and reference is made to Müllenhoff and the Rev. W. F. Clarke. In corroboration I had found a repetition of the assertion by Maeterlinck in his "Life of the Bee," page 36. If researches of a more recent time have *proved* these authors to be mistaken I thank Colonel Walker for giving me the means of correcting my want of knowledge on the point.

That honey contains an acid reaction, especially when it has been sealed in the cells, anyone can ascertain by the simplest of chemical experiments. If this acidity is not due to the presence of formic acid, I shall be very glad to learn its actual source. If formic acid is present, it seems difficult to see how it can get into the honey otherwise than is affirmed by the authors whom I have mentioned. I send name, &c., for reference.—The Writer of the "Times" Article.

BEE-KEEPING IN MEXICO.

[7107.] I thank you for kindly replying in the B.B.J. of February 6 to my inquiries *re* extractor, yeast, &c. Regarding the former, I remember you stated that the sample of honey I forwarded you last year (*vide* B.B.J., September 12) was the thickest you had seen for some years. That being the case, and as I read that Scotch honey cannot be thrown out of the combs by the extractor, but must be pressed out owing to its density, I fear such would be the case with my honey, the more so as this year the honey is still denser—more like jelly—and before ordering an extractor I hope to send you a sample for your valued advice thereon.

I notice that in B.B.J. for February 20 (page 76) Mr. J. Gray asks "if any readers have tried the plan of working a stock of bees entirely on shallow-frames, allowing two sets in lieu of the orthodox brood-nest." Although my limited experience is of slight value, I give it for what it may be worth. My supers contain thirteen shallow-frames, each 15¼ in. by 6 in. in the clear—that is, comb-space. On November 15 last I drove a very large stock into one of these supers, giving them three frames of honey capped over. January 26 saw hundreds of drones taking their afternoon flight with young bees. February 3 found all combs fully drawn-out, and mostly with sealed brood and sealed honey. Took away one frame of brood and one of honey for a weak colony, and put on a super of same dimensions with foundation in frames, making a brood-nest of two sets of supers. February 6, from this upper set took away three frames of drawn-out comb, and replaced them with three frames from which I had just cut out the combs of sealed honey, leaving ½ in. of comb under top-bar (dripping with honey) as starters. February 17, upper half of brood-chamber filled with drawn-out comb, mostly with honey sealed over. February 18, put extra super under the upper

set, and placed this latter on the top of it, as it had a little brood to hatch out. February 24, enlarged entrance to 2 in. high by full width of hive, as bees were clustering outside at night. March 4, upper set on top of super, as stated, full of sealed comb, some with a little brood, chiefly drone. March 15, took away five frames of sealed honey from upper set, and put in five frames with starters dripping with honey, and placed a case of "sections" beneath it. March 23, this hive threw an enormous swarm, which, contrary to rule, clustered in the top of an orange-tree, 20 ft. from the ground, in the full sunlight at 2 p.m., which, at the cost of many stings, I safely hived. April 8, put "Porter" escape under upper set and on the top of case of sections, but bees would not leave. After taking away this upper set and thoroughly smoking them, found queen-cells on two frames, and bees still unwilling to leave; so I replaced it, and there it remains. The sealed combs in the frames mentioned weigh 5 lb. each, so that I have only taken so far 30 lb. Another stock hived on the same date, but on frames 8 in. deep, of the same length and number in the brood-nest, have given me 60 lb. of sealed comb, and have another super nearly ready to take off.

In the above manipulation of the upper section of brood-nest I have tried to follow the advice of (I think) Mr. Heddon in *Gleanings*. As Mr. Gray is an expert, I would esteem it a great favour if he will kindly criticise—not criticise kindly—my operations above detailed. Owing to fighting against the influenza for a great part of the time, I was far from being myself, and doubtless committed errors. With kind compliments.—FRANK W. BREACH, Chinipas, Mexico, April 10.

KENT BEE-KEEPERS' ASSOCIATION.

[7108.] In order to carry out the intentions of the provisional council of the Kent Bee-keepers' Association it is necessary to find hon. local secretaries for the following centres, viz.—Sevenoaks, Tonbridge, Malling, Strood, Cranbrook, Sittingbourne, Faversham, Tenterden, Rochester, Folkestone, Canterbury, Thanet, Dover, and Eastry. No hard-and-fast rules have been, or will be, laid down in connection with the boundaries of districts. Much will depend upon railway and other facilities. The work of a local secretary will not be heavy. It is greatly hoped that gentlemen (or ladies) who have a little spare time and are willing to lend a helping hand will come forward at once to ease the task of putting the association for such a large county as Kent on a sound footing. Letters suggesting the names of those who may be too modest to offer their own services will be welcomed in confidence. The central secretary will be glad to meet prospective local secretaries and explain working details. If these lines meet the eyes of any who are blest with a surplus of this world's goods, will they kindly remember that there are bound to be initial expenses in connection with this movement, and that no fund exists to meet such?—H. R. N. ELLISON, Hon. Sec., Hothfield Rectory, Ashford, May 8.

A BEE-BREEDER'S OPPORTUNITY.

[7109.] Sometimes we hear of wonderful strains of bees and their disease-resisting powers—points of advantage which are of priceless value. At the present time we are sending about fifty swarms or stocks to bee-keepers in the Isle of Wight, and it occurs to me that this is a splendid chance for bee-breeders of disease-resisting strains to test their superior value by sending along a nucleus colony or a swarm.

We are making progress in our effort in the above direction, as the following encouraging letters show. A well-known bee-man writes:—"I will send you two of my hardy young queens for the island in June." Then a Middlesex gentleman says:—"Come and take the best stock in my apiary, and send to the Isle of Wight." A Hampshire bee-keeper's letter reads:—"Tell Mr. H. M. Cooper to come and take which stock he likes best in my apiary." A Midland working-man writes:—"I send you a subscription, and am going again to bring the matter up before our association." Lastly, a Hampshire gentleman says:—"Please find postal order enclosed. I am glad you are taking up this matter."

We want to find the best disease-resisting bees, and, by adopting various methods, to discover the best way of dealing with this new feature as developed in the Isle of Wight bee-trouble.—JOHN SILVER (organiser to the Isle of Wight Bee Fund), Croydon Grove, Croydon, May 2.

BEES AND BUTTERCUPS.

PROSPECT OF A GOOD SEASON.

[7110.] I am an old reader of the B.B.J., and as proud of it to-day as I was twenty-five years ago, and can always find something interesting therein. I was rather surprised to see the mention of buttercups in the list of pollen-bearing flowers sent by our friend "D. M. M." in the B.B.J. of April 16 (page 154). I also see that Mr. Woodley, in "Notes by the Way" (page 164), touches on the subject. According to my experience, it is

(*Continued on page* 196.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

It is always refreshing when a "useful hint" is given in our bee-garden pictures, and in this connection we commend Mr. Hall's description of the portable bee-house on wheels, which, as we learn from his notes, serves more than one good purpose. He says:—

"It is now about eight years since I commenced bee-keeping 'on my own,' as the saying goes, although I have been among the bees since childhood. I can well remember having been caught 'pokin' sticks in t' holes of t' skeps,' as my old grandfather used to say. I commenced by purchasing a stock of bees in a skep, no other home for bees being considered suitable to my way of thinking then, and they did very well the following season so far as regards increase, besides giving some honey, such as it was after squeezing and straining. Meantime I had heard of the B.B.J., and resolved to get its help in learning more about bees, as the skeps in my garden seemed to me like so many sealed books, and in this way I not only got the knowledge I desired, but from its pages was led to get a copy of the 'Guide Book,' which I regard as a veritable boon to bee-keepers, especially beginners. If its pages were consulted oftener the Editors of the B.B.J. would not have so many queries to answer. Well, I may say that after reading all I could get hold of about the craft, I determined to try my hand with the frame-hive, which meant coming closer into touch with its inhabitants—a relationship which I found was very *pointed* at times, but we never quarrelled much. I next made some hives according to sizes given in 'Guide Book,' and was soon on what I thought was the road to success. Right here, as the Americans say, I was fortunate in making the acquaintance of Mr. A. J. Brown, who was then secretary of the Wotton-under-Edge B.K.A., whom I found always ready to lend a helping hand to beginners like myself, and since then I have had my share of the good obtained through bee-keeping, both in pleasure and profit, my 'takes' of surplus in 1905 and 1906 amounting to hundredweights. Nor have I ever failed to find a ready sale for my honey in jars at 8d. per lb. The year 1907, however, proved a complete failure with me, as it did with so many others, both in regard to stores and surplus. The hive near which I am standing in the photo is the first I made. The little wood house at the rear is my extracting-room and store for appliances, honey, &c. It is perfectly bee-proof, and, being mounted on wheels, I found it very convenient last June, as I moved house and bees for a distance of thirty miles without a single breakdown of comb. The space on underside of the house is utilised for holding spare lifts, &c. The hives, as will be seen, are rather close to the dwelling-house, and I have three neighbours, but so far have never had any trouble with the bees. I plant a row of runner beans at the back and sides each summer as a sort of screen, and the timely gift of a section or a jar of honey often serves to remove the

MR. HORACE H. HALL'S APIARY, DURLEY, NEAR BISHOP'S WALTHAM, HANTS.

hundred-and-one difficulties bee-keepers occasionally meet in dealing with neighbours. Trusting my sermon will not trespass too much on your valuable space, I conclude by wishing our B.B.J. and *Record* every success, and a right merry 'hum' for all brother bee-keepers in 1908."

("*Bees and Buttercups*," *continued from page* 194.)

surprising the many kinds of flowers bees will visit for pollen, but, like Mr. Woodley, I have never seen bees visit buttercups in search of pollen; nor do I think the common buttercup either produces pollen or nectar for bees. On the other hand, the water buttercup (or water blab, as it is commonly called about here) does bear pollen plentifully. There is a large quantity of these flowers in bloom with us at the present time, and on every fine bee-day we have had this month the bees have been busy on these flowers. It may be that this is the flower our friend "D. M. M." is alluding to; if so, he is quite right. I also notice on page 170 (April 23) a reply to "A. H. B., Cornwall," with reference to "Fraud in the Bee-Trade." Now, I have sold hundreds of swarms and stocks of bees through the B.B.J., and I always advertise my bees as sent "on approval," and my advertisement, which will appear in the B.B.J. shortly, will state this fact. Moreover, I have sent bees all over England, Scotland, Ireland, and Wales, and to South Africa, on the same condition, and have not had a single complaint for the last two years.

I may say we have been experiencing very bad weather here of late, but I for one think that, as we are having good bee-weather now, we shall have a glorious time, because our bees will have an opportunity to increase in strength before the flowers are in full bloom, and if bee-keepers had only been patient and fed their bees, instead of grumbling, there would not have been so many dead stocks as we read of. I have myself wintered seventy-five stocks out of seventy-seven, and believe, so far as the outward appearance enables me to judge, I have not one queenless lot. I am now about to go over them all, as the weather is fine enough to enable me to do so.—E. J. Thompson, Snaith Apiary, Gowdall.

BEES IN BURMA.

[7111.] I have just had the following communication from a friend in Burma. If you think it of sufficient interest, pray make use of it in the next number of the Bee Journal.—H. Richardson, Wilts.

"When I was at this bungalow a month ago I noticed a couple of bees inspecting it. I rather fancied this meant a swarm, and sure enough the next day a swarm came in and took up its abode in a cupboard. The day after that I marched fourteen miles, and that afternoon another swarm came into the cupboard there. Could they have followed me? So far I have seen seven swarms. If I find one near headquarters I shall hive it. —L. E. C. Everard, West Salween, Burma, March 22."

FOUL BROOD.

REPORT FROM SOUTH AFRICA.

Last session the Select Committee appointed to investigate and report upon the bee-industry studied, among other questions, the possibility of the introduction of foul brood. This most serious disease, they were pleased to record, is at present unknown in South Africa; but they were informed that the pest "may at any moment appear if the unrestricted importation of bees be allowed to continue," and therefore they urged the need of efficient legislation to prevent the introduction of the deadly *Bacillus alvei*. Foul brood is the most terrible disease to which bees are exposed, and, being very contagious, it often devastates whole apiaries. In Australia, for instance, the honey supply is said to have dropped 50 per cent. by the appearance of foul brood, and many States in America have been compelled to pass legislation with a view to its suppression. The Transvaal—where apiculture, stimulated by the formation of a bee-keepers' association, bids fair to become a more serious industry—has already adopted precautionary measures, and foreign bees may only be introduced by permit after a period of quarantine. Legislation on similar lines has been proposed for this colony, and it will be most regrettable should it be delayed till the disease has actually made its appearance in the Colony. No doubt an alarming report which was circulated recently among bee-keepers in the district will give force to the agitation in favour of such a preventive law. A suspicious-looking frame of brood-comb, it appears, from an apiary in the neighbourhood of Cape Town was forwarded the other day to the Agricultural Department for expert opinion. Numerous bee-keepers visited the Government Entomologist's office in order to inspect what was feared to be a case of foul brood. The brood-comb was promptly submitted to Mr. Attridge, the apicultural adviser of the Department, an expert who is thoroughly acquainted with the suspected disease. Mr. Attridge has now handed in his report, which, it is satisfactory to learn, is of a very reassuring nature, no

trace of foul brood having been found. The news will be received with relief by all apiarists. Further information on the subject of what is apparently a new disease will doubtless be forthcoming when Mr. Attridge lectures on the subject of bee-keeping at the Rosebank Show.—*Cape Times.*

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Tested Queens (page 156).—A perusal of queen advertisements in American papers will convince anyone that the term "tested" is applied equally to queens of races other than the Italian, and that the use of the term implies "purity of mating." Even if understood as applying primarily to Italians, where no other race is mentioned, the use of such subvariety names as "golden" and "red clover" usually indicates the race. But Carniolans, Caucasians, &c., are advertised both "tested" and "untested," so that it is at least quite clear that Italians have not the exclusive use of the term, even in America, and it is to be hoped that the misuse of the word will never obtain over here, however unwisely advocated.

Sheep in Tupsyturvydom (page 157).—Herbivore stock is all right in its way, but if a stock of bees is right in its way it is apt to be a bee-hive o'er. And to wish that it had moved, or rather that it had remained, a stock still! At the same time—that is, if they are together—sheep graze well in an apiary, so long as they do not graze the hives! That is to say, if the tups confine their attentions to the turves! The plan is said to be a success in America, but the hives are lower and propolis-cemented. An English hive well tupped would soon become ram-shackle! Our roofs just lend themselves to blessings on the Duke of Argyll, and when once the roof is off, after their eavening refreshment, the sheep no doubt attempt to flock into the folds of the attractive quilts!

Loss of Weight in Swarms (page 164).—A certain diminution in weight in travelling is not unreasonable. How would an agreement on the basis of 10 per cent. meet the case? It should be remembered that the honey which has "wasted" has been sold at the price of the swarm—say 2s. 6d. per lb.—and that whilst it is very valuable to both seller and buyer for its purpose; this is, to say the least of it, a good price.

Foul Brood (page 165).—It may be that Mr. Farmer is right in guessing that there is only one bee-disease, or it may be that the scientists, who are patiently investigating the matter with oven and microscope, will eventually establish their claims. It may be better to await their verdict, although we are, of course, not bound to accept it! But how is it possible to realise Mr. Farmer's warning to avoid the spore stage? Spores are formed so soon as the nutrient matter begins to be exhausted, and not only in the case of combs kept over the winter. But I fear Mr. Farmer will not agree. If I remember rightly, he does not believe that germs cause disease.

Vertical Wiring (page 166).—An objection to this method is that it makes the top and bottom bars approach one another, which conduces to brace-combs. Very few combs are built to the bottom-bars, so that some wire is exposed, which in the case of fine wire soon rusts through. Horizontal wire can be completely encased in comb. Wire measuring .0085 in. diameter is Imperial standard gauge No. 35. Gauge No. 30 is usually recommended. This measures .0124 in., or half as thick again. For several reasons I prefer a wire even a shade stouter than this.

A Gross Insult (page 177).—Now what on earth has Mr. Farmer got against the pig that he should style him "gross"? Has he never heard of highly erudite pigs whose society never became a bore? But weight a moment; it may be litterally a question of avoirdupore, although the old reckoning is by the score. It is too bad that Mr. Farmer should be allowed to settle old scores in this gross fashion. If he feels that he has been rasher than he should be, he might apologise to my Lord Bacon, for he is surely guilty of *lèse majesté* to "der Schwein der grosse"!

The Buttercup and the Bee (page 177).—No connection with the beer-cup and the butt! It is unkind of No. 7097 to point out, however temperately, Miss Corelli's mistake. Oh, unchivalrous! To anonymously insist upon the truth! Would you hit a woman? Genius must not be expected to confine itself to a sense of the merely true, but must have a licence too! Did not Byron say "Truth is a stranger to fiction"? Seeing is believing, and the gifted author may have seen a bee leaving a buttercup. But one cannot see everything in this world, and it may be that the seer's titular knowledge, to judge from deeds of title, is but entitled to deal in truth with the invisible worlds, between the upper and nether of which this poor earth is ground! But— What black-and-white magic lies in a but? Truth, like Diogenes, sometimes dwells there! Gorgias the Sophist asks: "What is truth but what we believe to be truth?" So, if believing-genius demand that the bee shall visit the buttercup, she must do so!

TRADE CATALOGUES RECEIVED.

Continuing the notices of *Trade Catalogues* from our issue of March 26 (page 130), we have first that of

ABBOTT BROS. (*Southall, near London*), Inventors and Manufacturers of Prize Bee-hives and Appliances, whose comprehensive list has this year been extended and brought up to date, many new illustrations being added. It is replete with every appliance required in the apiary, and includes stocks, swarms, and queens, British, foreign, and hybrids, from their own apiaries. 60-page catalogue free on application.

E. J. BURTT, *Stroud Road, Gloucester.*—Mr. Burtt, as usual, makes a speciality of sending out hives in the flat, and of boards specially cut to customers' sizes. He also has an expert assistant, who undertakes practical bee-work by the hour or day at very moderate charges. Catalogue free by post.

THE W. T. FALCONER MANUFACTURING CO., *Jamestown, N.Y., U.S.A.*—This firm, in addition to being makers of a very full line of bee-keepers' supplies of all kinds, are publishers of the *American Bee-keeper*, a journal familiar to readers of "Extracts and Comments from American and Colonial Papers," by "D. M. M."

WEATHER REPORT.

WESTBOURNE, SUSSEX,
April, 1908.

Rainfall, 2·16 in.	Minimum on grass, 21° on 9th & 21st.
Heaviest fall, ·37 in. on 24th.	Frosty nights, 4.
Rain fell on 15 days.	Mean maximum, 51·2.
Above average, ·39in.	Mean minimum, 36·9.
Sunshine, 175·8 hours.	Mean temperature, 44·1.
Brightest day, 8th, 12·2 hours.	Below average, 1·9.
Sunless days, 2.	Maximum barometer, 30·274 on 7th.
Below average, 8·7 hrs.	Minimum barometer, 29·316 on 25th.
Maximum temperature, 62° on 30th.	L. B. BIRKETT.
Minimum temperature, 28° on 9th.	

APRIL RAINFALL.

Total fall, 3.37 in.
Heaviest fall in 24 hours, .86 on 27th.
Rain fell on 16 days.

W. HEAD, Brilley, Herefordshire.

Queries and Replies.

[3698.] *The Bad Season.*—It is a long time now since I wrote anything about my bees. They have been the most profitable things I possess up to the present; but I am quite bewildered just now as to what to do with them at present. They are very short of food, and I cannot get them to take any, although put in the feeders nice and warm, made according to directions in the new "Guide Book"; but I cannot find anything to suit my case. I also take the B.B.J. every week. Our county expert examined my four stocks in mid-April, when they were all healthy, and contained brood and eggs in all stages; but the bees were not over-strong, and I have them packed well and in good hives made by the same expert. The weather here up to the end of April was too awful for words, snow, hail, rain, and piercing cold winds prevailing. On the morning of the 27th ult. it was sunny for a few hours, and the bees were out in thousands, but bringing very little pollen in. Early in the afternoon and evening it rained again, and piercingly cold east winds made it as winterly as ever. I should be very glad to receive a word of advice in the B.B.J., as I am quite at a loss to know what to do for them.—S. J. C., Stourbridge.

REPLY.—Unfortunately, we are unable to suggest anything beyond giving warm syrup-food poured into the empty cells of a frame of comb, and placed next to the cluster. This will soon be taken by the bees now that the weather has improved. The wretched season has been destructive of bee-life everywhere.

[3699.] *Artificial Swarming.*—1. In making two colonies from one, is it always easy for a beginner to be sure that the queen is on one of the frames that he removes into the empty hive? 2. Supposing, then, that the queen is not on one of these frames, but is removed with the other frames to the new stand, would not the bees raise a queen for themselves, as they generally do in the frames without queen removed to a distance? In short, should it not be as easy in the one case as in the other? 3. When pollen is being brought in by bees, as at this time of the year, is that a sign, in the case of a skep, that there is brood as well as pollen in the hive? Reply will oblige.—TYRO, Rossshire, May 11.

REPLY.—1. If the operation of making two colonies from one is carried out according to the directions given in the "Guide Book"—and any beginner who makes artificial swarms without such a book is simply courting disaster—he will remove only one frame of comb from the parent stock, and that one will have on it the queen. Nor are the queen and frame of comb when put in the new hive moved to a distance. It is set upon the old stand, and the parent stock, now queenless, is moved to a new location. 2. Whichever part of the hives is made queenless will raise a successor from the eggs or young larvæ left behind; but we strongly advise you not to try the plan proposed. 3. Pollen-carrying is generally regarded as a sign that brood-rearing is in progress, but not of there being a store of pollen in the hive.

[3700.] *Stimulating Bees in Out-Apiary.*—Will you please tell me how I can give stimulative feeding to two or three hives of bees in an out-apiary? I do not wish to visit them more than twice in the week for this purpose. Would giving one pint of the thin syrup every four days or more answer the purpose? Feeding the bees from ontside is ont of the question, owing to the proximity of neighbouring bees. Thanking you for past favours—G. THOMAS, Pembroke, May 11.

REPLY.—Feeding for stimulative purposes only may be done by giving the proposed quantity (one pint) of good thick syrup every four days in a wide-mouthed glass jam-jar, covered with strong twilled calico. By using this material, the bees can do no more than suck the surface of the calico, as damped by the syrup, and the latter is thus consumed very slowly. Whereas, if an open material—ordinary muslin, for instance—is used, the food is rapidly carried down, and fails to secure the desired end.

[3701.] *Cane versus Beet Sugar.*—Is it possible to tell the difference between beet and cane loaf sugar? I have bought ½ cwt. of sugar from a local tradesman, and I ordered cane sugar for bee-feeding. This tradesman sends me the ½ cwt. in a box labelled "Meyer's Cubes. Made in Germany." On my writing to the man about the matter, he admits the sugar is in a foreign box, and goes on to say it is the same that he is giving his bees, and that it is all right, &c. But he does not say in *writing* that it is cane sugar or that it is not. Twelve months ago I had a hundredweight of cane through your office, and the box was labelled "West Indian Produce." I was quite satisfied with this, but, hoping to benefit the locality, I made the change this year. I wonder whether Messrs. Meyer would permit their boxes to be used for other sugars? I should be glad to know in the B.B.J. what you think of the matter. I send name for reference, and sign—VILLAGER, Cambs, May 11.

REPLY.—We have no knowledge of the sugar designated as above, but if it is not guaranteed pure cane, the fact of its being "made in Germany" gives the idea that beetroot figures largely in its manufacture. We, therefore, cannot commend Meyer's cubes for bee-food unless guaranteed as above.

[3702.] *A Lady Beginner's Queries.*—1. I am only a beginner, and have three frame-hives stocked with bees, which, I am sorry to say, have for three or four years past never had a single frame lifted out and examined, consequently are so tightly fixed in the hive as to be immovable, and as I wish to get the bees out, I ask what shall I do? I had thought of transferring them to new frame-hives, as advised in the "Guide Book" (page 149), but I wish to know if that would be right? I procured the "Guide Book" in February last, and trust with such valuable information to be able to now understand and master my bees. 2. Should the American leather-cloth be with the glazed side up or down? 3. Is sample of sugar sent suitable for bee-feeding? 4. Is the "Burkitt" bee-glove quite sting-proof? 5. If I use the jar inverted over feed-hole of hive for slow feeding, what should it be covered with for rapid feeding? I notice the bees eat through muslin. Thanking you in anticipation of reply—(Mrs.) K. F., Rhyvie, N.B.

REPLY.—1. The plan of allowing the bees to transfer themselves to new hives, as described in the "Guide Book," is by far the best for your purpose in every way. In fact, the difficult task of sundering the cross-built combs in a stocked hive is beyond the powers of a lady beginner, and would probably end in disaster. Not only so, but it would tend to spoil the chance of securing any surplus honey this year. On the other hand, the plan we advise allows of the bees quietly transferring themselves to the new hives, and the old ones can be used as surplus-chambers for storing honey; allowing of their removal—freed from bees—when the season closes, ready for having the combs cut away for extracting in comfort and without damage to persons from stings. 2. Use it with glazed side down. 3. Yes, if it is pure cane sugar. 4. You must test this for yourself. Many persons use them. We do not use gloves in manipulating, so have no personal experience one way or the other. 5. Cover jars with twilled calico.

[3703.] *Starting Bee-keeping in Exposed Positions.*—1. Will you kindly tell me, in the B.B.J., whether it is any use my trying to keep bees on an exposed cliff at the edge of the sea? My back garden is on the side of a hill, and there are no trees or shelter, except the hill rising up behind the house. We face the sea, and our plateau is swept by strong south-westerly gales, while we have much rain, as is usual in Cornwall. Supposing that your view is favourable, I want advice as to what bees require to feed upon, there being practically no fruit trees. The surrounding land is pasture and a few corn and potato fields. If this is too exposed a situation, it may not be worth my while to begin. 2. If you consider it feasible to keep bees in such a place, I shall be glad if you will tell me, in your paper, what I must do to procure hives, and whether it is best to buy secondhand or new ones. 3. Also what book do you recommend so absolute an ignoramus as I am to have for guidance? I am sending name in, but please reply to—E. H., Looe, Cornwall.

REPLY.—1. It is not easy to judge the possibilities of an exposed location for bees from a description only, seeing that it might not be easy to construct a shelter of some sort for protecting the hives from wind. We should recommend a trial with a couple of stocks for a season or two before definitely deciding either way, because we have known bees to do well in very unpromising sitnations at times. The fact of being surrounded by pasture land is no drawback, white clover being often plentiful in such places, and this is the queen of honey plants. 2. You had better start with a good natural swarm, weighing 6 lb. at least, and hive the bees in a new, well-made hive of good type. Several such will be found in the catalogues of our advertisers. 3. The new edition of the "Guide Book" will be suitable in every way for all your needs in starting.

[3704.] *Hiring Swarms.*—At 3 p.m. on May 2 one of my hives swarmed, the swarm settling on a plum tree trained against a wall. Not being able to cut the branches, I tried to sweep the bees with my hand into a basket. They, however, flew out again as fast as I could get them in, leaving the queen in the basket. I caught the queen and let her crawl into an inverted basket (which I had already put in position over the swarm), hoping that this might attract the swarm. Having to keep an appointment at 4 p.m., I covered all over with a blanket, and having made secure, went off. On my return, a couple of hours later, the swarm had gone. Now, what ought I to have done, and did I do anything that was decidedly wrong?—H. E. GOODWYN, St. Helier, Jersey, May 7.

REPLY.—The rough handling of the bees no doubt caused the swarm to take wing, and be lost. Had you first got the queen along with a few bees quietly into the basket, and fixed the latter above the swarm, the bees would have followed, and the swarm saved, unless exposed to hot sunshine, which must always be guarded against.

Bee Shows to Come.

June 4 to 8, at Southampton (Hants B.K.A.).—Honey and Hive Exhibition in connection with Royal Counties Agricultural Society. Many prizes. For schedule, write Hon. Secretary, Hants Bee-keepers' Association, Bransgore, Christchurch.

June 30 to July 4, at Newcastle (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Schedules from E. H. Young, Secretary B.B.K.A., 12. Hanover Square, London. **Entries close May 28.**

August 5 to 7, at Halifax.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. Schedules and form of entry from John Maughan, Secretary, Blake Street, York. **Entries close June 27.**

August 12 and 13, in The Park, Taunton.—Somerset B.K.A. Annual Show, in conjunction with that of the Taunton Deane Horticultural Society. Increased Prizes. Sixteen classes, including eight open and two free. Schedules from L. E. Snelgrove, Hon. Sec., Cromla, Locking Road, Weston-super-Mare. **Entries close August 7.**

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

EAST ANGLIA (Cambs).—*Dysentery Suspected in May.*—We see nothing in the appearance of dead bees sent that indicates dysentery or disease of any kind. There is no abdominal distension, nor are the contents forced out by pressure, while the bees are small and have an aged appearance. Besides, if your suspicion of dysentery is well-founded, it would be shown by excreta on the combs and in the hive. It would rather appear that the bees have had their vitality lowered by the bad weather and long confinement, and in consequence, like aged and worn-out bees, die off rapidly in spring.

J. W. MOIR (Edinburgh).—*Wintering Bees in Observatory-hive.*—1. It is very difficult to winter bees in observatory-hives, and if, as in your case, "the food supply was accidentally cut off," death would ensue in much less time than an ordinary hive, in which the bees could maintain warmth by clustering. We cannot judge from dead bees what caused death, but the natural inference in your case is that the bees died of hunger. 2. White clover is the best thing for sowing on railway embankments where such are available. It is now too late to sow for this year's crop.

W. B. B. (Devon).—*Mating of Queen Humble-bees.*—The details given are no doubt interesting to entomologists, and would be suitable for a book on the physiology of the humble-bee, or for a paper read at a meeting of an entomological society, but not for general readers in a paper like the B.B.J.

R. M. R. (Settle).—*Broodless Stock in April.*—The dead queen sent was evidently fertile when purchased, and successfully introduced early in August last. Had it been otherwise, drones would have been on the wing when the hive was returned from the heather. Nor is it at all likely that the stock would have "done very well at the moors," as we are told, under the conditions stated. We, therefore, cannot see how a valid claim could be made against the dealer who supplied the queen in question nine months ago.

Suspected Combs.

H. RICHARDSON (Wilts).—Sample of comb sent is no use in diagnosing foul brood, since there is not a single cell in which the remains of dead larvæ can be found. The fact of it being a weak swarm when hived, and the bees having since died out, makes it clear that so bad a season as that of 1907 sufficiently explains the result without any disease being present.

BUSY BEE (Coventry).—The comb sent contains only hard mouldy pollen; no trace of brood at all.

H. C. C. (Wye, Kent).—There is incipient foulbrood in comb sent, apparently a recent outbreak. By applying the known remedies at once, and watchfulness, the mischief may be stopped.

IZAL (Chesterfield).—There is disease in sample of comb sent, but it is not *Bacillus alvei*. The appearance of the dead larvæ is that of "black brood." As the queen is old we should try the effect of requeening. That, and the fact of the stock now "building up nicely," together with the improved weather conditions, may overcome the trouble if promptly acted upon.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

STRONG HEALTHY STOCKS, with 8 Frames of Comb and Brood 22s. 6d.; 10 ditto, 25s.; in good Hives, 30s., 1907 Queens guaranteed; strong Natural Swarms, expected daily, 12s. 6d., 1907 Queen; 3-Frame Nucleus, 1908 Queen, early in June, guaranteed healthy.—WOODS, Normandy, Guildford. f 78

GRAY'S SHOW JAR, fine sample of British manufacture, fulfilling all requirements of the Show Bench, 3s. dozen, free on rail; sample, 6d., post free.—THE WHITE APIARY, Long Eaton. e 84

WANTED, Simmins' "Conqueror" Hives, guaranteed free from foul brood; also first-class Observatory Hive. — BROOK, Stamford-road, Bowden, Cheshire. f 62

HIVES.—Good, strong, well-fitting Hives, fitted with 10 Standard Frames, and full sheets of Foundation, and metal ends, dummy board, absolutely rain-proof roofs, painted three coats best paint, 20s.; without Frames and Foundation, &c., 16s.; Swarms, 4 lb. 15s., 3 lb. 12s.—H. WILCOX, Breedon Apiary, Olton, near Birmingham. g 17

SWARMS.—Orders booked now, May 12s., June 10s.; safe delivery; sent in Swarm Boxes.—G. LONG, Oakery, Lynn-road, Ely, Cambs. g 16

6 10-BAR FRAME HIVES, with Section Crates, good as new, £2. — WARRACK, Mile End Farm, Lambourn, Berks. g 15

FOR SALE, 18 strong and healthy Stocks of Bees, in nearly new Hives, well painted; 16 Racks of Drawn-out Shallow Combs, perfectly clean; 9 new Racks, Frames wired, and Foundation, ready for use; 10 Section Crates, ready for use; 10 lb. Foundation; 2 Honey Ripeners and Strainer, nearly new; 3 new "W. B. C." Hives, Frames fitted with Foundation wired; also 5 other Hives, everything in first-class condition; also quantity of new Sections, Frames, Bottles, &c., all to be sold together. Apiary situated near York.—PHILLIPS, 61, Wilfred-road, Nottingham. g 14

CRATES, containing 10 well drawn-out wired Shallow Bars, 9s. 6d. each, guaranteed from healthy Stocks.—R. M. BROWN, 42, Ashburnham-road, Luton. g 13

CARBOLINEUM is the best preservative for Bee-hives, Poultry-houses, and all exterior woodwork; prevents wet or dry rot, 3s. 9d. gallon bottle, carriage paid any address.—GURTH COOPER, 15, Cheapside, Derby. g 12

FOR SALE, several Stocks Bees, on five Frames, 10s. 6d. each; also 3 good Queens, 3s. 6d.; post free, cash with order, healthy.—ROUSE, Rochford, Tenbury. g 11

EXCHANGE "WELLS" HIVE, good condition, healthy, complete, for good Swarm or Stock, in Skep.—RALPH, Settle, York. g 10

SECONDHAND HIVES, various, good makes, from 5s. each. List on application. Well painted, guaranteed healthy.—CHARTER, Tattingstone, Ipswich. g 9

9 NEW LARGE SKEPS, willow-bound, tight, 3 lb. 4 oz. Bees-wax. What offers?—WEBB, 19, Gordon-road, Swindon. g 8

28 LB. LIGHT GRANULATED HONEY. What offers?—L. W. MATTHEWS, Great Rollright, Oxon. g 7

"CHAPMAN HONEY PLANTS," 12 seedling plants and packet of seed, 4d., free.—BRADLEY, Stretton, Yockleton, Shrewsbury. g 7

"WELLS" HIVES, 2 Redshaw's, Silver Medal, cost over £3 each, complete, with extra Lift and Supers, condition as new, price 25s. each; Wax Extractor cost 10s. 6d., splendid condition, 6s. 6d. — PIDDUCK, Sunnyside Apiary, Alsager, Cheshire. g 5

Special Prepaid Advertisements.—*Continued.*

REALLY FIRST-CLASS STOCK of Italian Bees, headed by 1907 imported Queen, in Meadows's 21s. Hive, price 37s. 6d.; also extra strong Stock British Bees, 1907 Queen, in Taylor's "Twentieth Century" Hive, 35s., condition as new, guaranteed healthy. — PIDDUCK, Sunnyside Apiary, Alsager, Cheshire. g 6

A NUMBER OF "W. B. C." HIVES, quite new; each has Brood Chamber, with Frames and Ends, Section Crate, with Sections, outer case has two Lifts, 18s. 6d. each. Photo and full description, 2d.—G. E. HORWOOD, Campden, Glos. g 4

WANTED, BEES, on 5 Frames, without Hive. —"Rosehurst," Pannal Ash, Harrogate. g 3

2 NEW 10-FRAME HIVES, with Lifts, and 2 Supers each, painted 3 coats, 10s. each. Deposit. —WARREN, JUN., Great Horwood, Bucks. g 2

FOR SALE, ½ Plate Camera, by Lancaster, 2 Slides, 2 extra Lenses, and Tripod, condition equal to new, 60s.—L. WAKEFIELD, Blackmore Lodge, Bromsgrove. g 1

SWARMS.—Booking Orders at 3s. per lb.—WAIN, Thorpe Bank, Wainfleet. f 99

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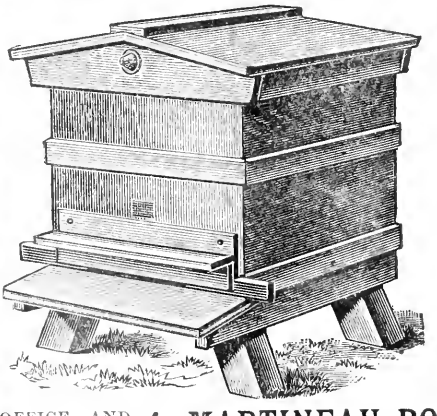

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The

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR.

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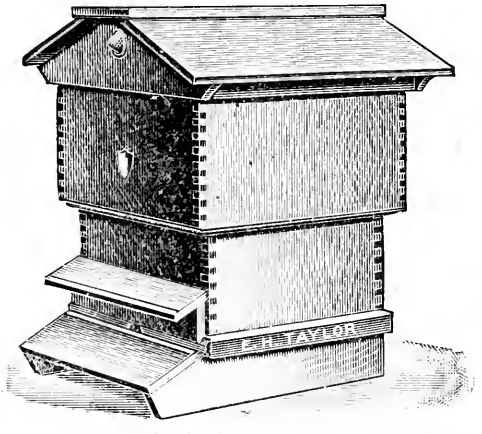

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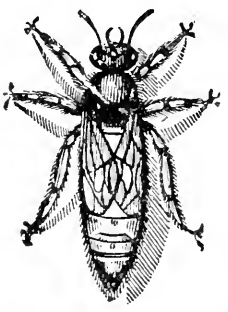

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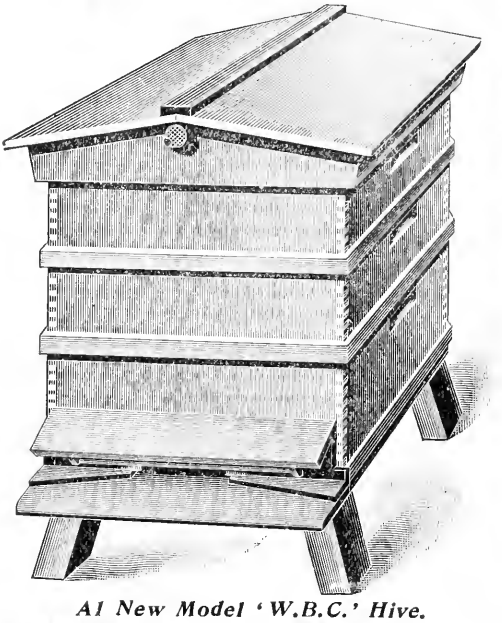

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Editorial, Notices, &c.

THE "ROYAL" SHOW, NEWCASTLE.

SPECIAL NOTICE TO EXHIBITORS.

The long spell of bad weather prior to May has, we are sorry to say, told on the prospects of the show to an alarming extent. So few regular contributors to the show-bench whose appearance is relied upon to make entries have responded so far that absentees will be more numerous than for a long time past, and it remains to be seen if the sudden leap from winter to summer will tempt new exhibitors to take advantage of the chance offered to carry off the prizes. Wherever we look the prospect is poor in the extreme for the show, unless the favoured ones whose bees were ready for the sudden change and are now gathering honey fast will take advantage of the few days still remaining for making entries and winning prizes.

One would think there must be bee-keepers amongst us who, for the credit of the craft as a whole, would make a special effort on an occasion like the present to prevent what ought to be the principal show of the year being a failure. The time up to which entries may still be made at ordinary fees expires on the 28th inst., and if (as we hope) the usual provision is made for the return of fees in case unseasonable weather prevents honey of the current year being staged, there will be no risk of losing the fee.

We therefore trust that no one fortunate enough to have a chance of securing what may be termed an "easy win" will fail to take advantage of the exceptional conditions now prevailing.

A B.K.A. FOR SUSSEX.

MEETING AT BRIGHTON.

On April 15 a meeting was held in the Pavilion, Brighton, attended by twenty persons, to establish an association of bee-keepers for the county of Sussex, and Mr. C. T. Overton, being voted to the chair, proceeded to explain the object of the meeting. He explained how the old association had over 300 members during the time the Rev. N. Andrews, of Southwater, was its hon. secretary, and how its decay followed the retirement, through ill-health, of the rev. gentleman. Referring to the possibilities open to an association for Sussex, there was the fact of the Surrey Association having between 600 and 700 members and their receiving a grant of £150 a year from the Surrey County Council. It was hoped that a similar grant would be obtained from the Sussex County Council, as without such aid the practical lectures and demonstrations at public shows of the utility of the craft would be very restricted. There were, he said, between 600 and 700 bee-keepers in Sussex, than which there was not a better county for the production of honey, in virtue of its abundant crops and fertile soil. Among the benefits to be derived by membership was the instruction and practical help they would have on receiving a visit from the expert, whose business it was to show members how to obtain the best and most remunerative results from the working of their bees.

Mr. W. Edwards then addressed the meeting, pointing out the necessity of union among bee-keepers. He then proposed the following motion: "The object of the Sussex Bee-keepers' Association is to extend and increase by all the means at its disposal the pursuit and industry of bee-keeping, and in aid of this an expert will be engaged to visit the members of the association for the purpose of examining and reporting on the condition of the bees, and giving advice where needed. Demonstrations will also take place from time to time—as the funds of the association permit—with live bees at flower shows, &c., held in the county." The chairman having submitted this motion to the meeting, it was approved *nem. con.*

Mr. Edwards then read the rules by which the association will be governed, which were more or less similar to the rules of other existing county associations, and they were approved accordingly.

The following gentlemen were appointed to act on the committee:—Dr. Peskett, Preston Park; Magnus Volk, Hassocks; Tickner Edwards, Arundel; Major A. Rusbridge, Siddlesham; C. W. Bassant, Crawley; J. Mockett, Hove. In addition to the above, it was also recommended that six other members should be chosen from the two County Councils, if willing to serve on the committee.

Mr. W. Edwards, Wilmington Lodge, Hassocks, was unanimously elected hon. secretary and treasurer, and Mr. C. T. Overton was elected as expert.

A vote of thanks to the chairman brought the meeting to a close.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

STANDARDISING HIVES.

[7112.] The reader need not easily come to the conclusion that my heading implies a "standard" hive, because such an ap-

plication of the term would imply that the great body of the bee-keeping fraternity had all but unanimously voted for one special hive as the best. That would mean that if we had not yet attained to perfection in hive-making, we had approached within measurable distance of that desirable peak. But the time is not yet! A standard hive and standardising a particular hive are subjects very far apart.

Almost all my hives are of the "W. B. C." type, which means that, according to my limited experience, this hive is *the best*. But what is a "W. B. C." hive? Unfortunately for me, in my novitiate days I had an impression that hives of all shapes and sizes were advantageous in that they aided the bees to locate their domiciles. I believed that a diversity of styles would cause less interchange of bees, and a variety in appearance would enable queens to return more truly from their marital flight to their rightful kingdoms. Hence my hives are of many patterns. Perhaps my ideas in regard to the foregoing facts are somewhat similar now, but I would seek to obtain my ends in other ways than by the crude system I adopted when I knew no better. It will at once be seen that the parts of my hives are not interchangeable, and that I therefore lack a most desirable advantage. The best advice a veteran can give a novice or beginner is to get the best hive attainable at the start, and keep to the same model throughout in any additions to the apiary. In my case, emphasising this means, "Don't do as I did; do as I tell you."

This is all introductory, but it leads to my story. Last year I determined gradually to eliminate all odd hives, and, wishing to start with a good style, I sent for specimens to six different appliance dealers who do, or did, advertise in the JOURNAL. When they arrived I got some lessons in variety, for apparently each of the six designers was a law unto himself as to what goes to constitute a "W. B. C." hive; and each had (perhaps) *improved* until he had left very little of the original, viewed from without, although all had kept to the foundation principle of an outer and inner case. From "turret to foundation-stone" no two hives were quite alike. Scarcely any part of any two could be perfectly interchanged. In their general features, indeed, they differed so much that a friend queried "Which?" on my stating that these were "W. B. C." hives; and on being informed "All," I saw a look of genuine incredulity pass over his features, although he was too polite to give it verbal utterance.

Here, then, is a well-known "standard" hive, and so well known, one would think, that he had simply to order it under the familiar initials to receive the genuine article in every case; but, to my sorrow, I discovered that expectation and realisation are two different things. All the six hives have distinct varieties of stands. Floorboards differ in style, make, and measurements. Porches vary in height, slope, and size. Slides or entrance-blocks are dissimilar. No two roofs are alike in slope or pitch, and the general effect in every case wholly differs. These, perhaps, are minor ills, but when we come to examine body-boxes, where we would expect uniformity, and that the original would be exactly copied to secure interchangeability, we find no two perfectly interchangeable. Let the tape-line speak and tell its tale. Run along the front of outer body, we find the following measurements:—19 in., 19⅛ in., 19¼ in., 19½ in., and 20⅛ in. Lifts are therefore available for their own hives, and for them only. Measuring from front to rear, we find them varying thus: 20 in., 20¼ in., 20½ in., and 21 in., and as the wider front generally accompanies the shorter side-pieces, this still further adds to the serious complications.

Plinths differ in depth from 1½ in. to over 4 in., and in thickness from ⅜ in. to ⅞ in. Roofs vary greatly. Some are nearly flat, others have a sharp ridge roof. Some consist of only two boards, others have four, and yet others six, in addition to the ridge piece, which again in every case differs in shape from its neighbours. Prices vary considerably, so does the quality of the wood, but in some cases in opposite directions.

Inner boxes, too, show the fruits of fertile minds. Some are slight and rickety; others are simply four boards nailed together. The internal space *may* be correct if the bee-keeper can correctly handle tools; but it is as likely as not to differ in each case in length, breadth, and even depth from the orthodox form. Some avoid this by cutting the wood exact; others groove the side-pieces (as all should) to fit the end-boards, and so secure right spacing.

The extraordinary variety in form of roof, shape of stand, and clumsiness or neatness of floor and alighting boards lends a grotesqueness to the *tout ensemble* in a group of these hives standing side by side. The schoolboy, after finishing his drawing, writes below: "This is an elefant"! fortunately for the beholder, who then guesses the object attempted to be illustrated. In the same way these hives would require to be ticketed to convince even the original inventor that they are what they profess to be. I think that gentleman has a grievance against these appliance dealers. I *know* I have. While they can, of course, please themselves in regard to hives of their own invention, they should accept the lines and measurements of this par-

ticular hive as given them. This is what I mean by *standardising*. Here is a hive which, when ordered from any "standard" dealer, should have all its parts perfectly interchangeable. Yet here they are with the main parts in almost every particular differing, and hence uniformity is eliminated for no sensible rhyme or reason.—D. M. M., Banff.

BEES AND FORMIC ACID.

[7113.] I have to thank the writer of the *Times* article, "Bee-keeping as a Rural Industry," for his courteous reply (7106, page 193) in B.B.J. of 14th inst. Unfortunately I failed to notice on its appearance in that paper the explanation subsequently furnished by him, and have not since had an opportunity of reading it. Undoubtedly Cheshire, in the passage aptly adduced, states, apparently on his own authority, that the acid quality of honey is "certainly partially formic," and proceeds on the authority of Müllenhoff to put forward the theory that "formic acid is provided by the bees by depositing droplets from their stings which they touch on the face of the honey." But Cheshire, although a good all-round man of science, for whom I had and still preserve a feeling of gratitude for his admirable work, was not an analytical chemist, and would not, I imagine, have ventured to maintain the theory in the face of its being proven untenable by the analytical investigations of Schönfeld and Planta, whose verdict, backed up by the opinion of Dr. von Buttel-Reepen, may be taken as disposing of that of Müllenhoff. Of the value of the Rev. W. F. Clarke's opinion I can say nothing, and I must confess that, apart from his literary and poetic qualities, Maeterlinck as a writer on bee-matters leaves me quite unmoved.

The presence, then, of formic acid in the honey deposited in comb-cells has yet to be proved before we need, as our friend suggests, consider its actual source. That done, we should need to know whether it is occasional or universal, as in the former case its source might be from the plant supplying the nectar; whether it occurs in partly-filled cells or only in those filled up and ready for or in process of sealing; and, again, whether the formic acid be not a glandular secretion communicated otherwise than by the sting. Nothing but my own eyes or the best evidence of the act having been observed will persuade me that the sting is used for the purpose, and I confidently inquire—When did anyone ever see a bee with its hinder end in a cell, except when first emerging or in the act of laying?—feeling sure that the closest observers will answer "Never." If so, the sting theory may be rejected as regards half-filled cells, for the density and viscosity of the poison fluid quite prevent it falling in minute drops from the sting. As regards the filled cells, I will not dwell upon mechanical difficulties, nor on the fact that the filling and sealing are not the work of one bee in charge, but of a great number of desultory workers, and that it must be extremely difficult to decide to which of these falls the duty of injecting the poison; but I do say that in any case the action must be deliberate, and I cannot believe that it could invariably escape the notice of a careful observer, and yet, as far as I know, no one has ever pretended to have seen it.

Dr. von Buttel-Reepen's very curiously worded—or shall we say translated?—dictum that Müllenhoff's statement is "(? not) anthromorphically quite clear" needs explanation; for what anthromorphism can have to do with a question of bee-life must be beyond an ordinary man's wits to imagine. He may mean "physically," but it is evident that, apart from the investigations of Schönfeld and Planta, he is oposed to the theory advanced by Müllenhoff. If our Senior Editor, Mr. Cowan, can find time to consult the original in his collection of German works, and, still better, elucidate the *Bienen-Zeitung* references to Schönfeld and Planta, it might much assist those readers of the B.B.J. who are interested in this question, and who, like myself, may not, pending further practical evidence, have already arrived at a conclusion.—H. J. O. Walker (Lieut.-Colonel), Leeford, Budleigh Salterton, May 17.

A CORRECTION.

[7114.] In the closing paragraph of my letter in your issue of last week (page 193) the word "reaction" after "acid" should have been erased in my MS.—The Writer of the "Times" Article.

ROSS-SHIRE NOTES.

SECTION-NUCLEI.

[7115.] Of late but little has been heard about "Swarthmore" methods. Possibly the majority have reverted to the older type of nucleus, as being more reliable, if less economical, than the mating-box system. Personally, I must confess to being bitterly disappointed with my initial experience of the small nuclei, but further trials have shown that, given due care, the latter will furnish queens equal to any.

I use a simple box to take three ordinary 4¼-in. sections, which rest on narrow strips attached to the floorboard. When

ripe queen-cells are available, the nuclei are furnished with one pollen-comb apiece, supplied by cutting up an outer full-depth comb, and then placed above the quilting of a powerful colony, preferably one supered with extracting frames. From another strong hive remove a rack of sections, and put two in each mating-box, taking care that all are well filled (not sealed) and thickly covered with young bees. Now insert a hatching-cell in each, see that entrances are securely fastened, and after wrapping up warmly let alone for a matter of five days. In setting out for mating purposes, make sure that the young queen is all right and stores ample.

On the original "Pratt" method bees of all ages were, after temporary confinement, hustled into the mating-box, a queen or cell inserted, and the lot set out straightaway. This plan works well at Swarthmore, U.S.A., but prompt desertion of all the adult bees makes it a failure in the less genial climate of the Scottish Highlands. As a matter of fact, locality is no bar to success if management is adapted to the altered surroundings. There is really no need for miniature hanging-frames, and none whatever for supplying the little boxes with brood or with feeders; all these are quite superfluous, and merely cast a cloud over the main issue. The point we must not lose sight of is that a newly-hatched queen is still immature, and requires warmth and attention, just as when in the larval stage.

These requirements are partly met by caging young queens on pollen-combs in the brood-nest, but the method I have outlined is better. Instead of cramping, give the mother-bee a clear run of three sections containing new honey and pollen, a retinue of young bees, broodless, their interest centring around the queen alone. Then secure an equable temperature by confinement close to the brood-nest of a powerful colony. The result is that you set out a well-developed queen, backed by a following of young bees that have never yet flown, and will not play the part of deserters.

The use of ordinary sections is a positive advantage, the wide spacing allowing the little colony to cluster densely together; while if stores should run short it is a simple matter to exchange the lightest comb for one full of honey.—J. M. Ellis, Ussie Valley, May 18.

GERMS AND DISEASE.

[7116.] Whatever may be the case as regards foul brood, I think it is absolutely certain that germs do not invariably cause disease. I am quite certain that there is no man living who does not come into contact with the germs of the most malignant diseases almost every day of his life; but statistics prove that only a percentage are injuriously affected. We all know of families in which two or three members are stricken with tuberculosis while the rest escape, and the same is true of other diseases. It is clear that there must be some physical weakness or peculiarity of constitution which causes the disease to thrive in the bodies of persons who were its victims. I do not assert that foul brood is an exactly parallel complaint, but, reasoning from analogy, I should infer that it is not unreasonable to think that there might be such a thing as natural immunity from foul brood. In view of the survival of the bee-race it is difficult to come to any other conclusion. With millions of spores formed every year for centuries, how otherwise does the race continue to exist at all? Can anyone give any other rational explanation?

Mr. Crawshaw's experience of foul brood appears to be different from mine. I do not find that the wet foul brood dries up rapidly. I come across very few cases of the disease in the open-cell stage; and, when found, these are easily filled with a strong disinfectant well stirred into the rotten mass. The sealed cells which contain diseased larvæ remain sealed for weeks (even months) without being perforated, and there is no danger while they are in that condition.

If we let things alone the disease will of course get beyond control. I have very many times clearly stated my experience, and it is not quite fair to assume that I am simply romancing. I have no desire to mislead, and I am too well known locally to make statements that are not correct without being found out as a romancer.

My apiary is—as I write—still free from disease, even though I put on the same quilts as were in use before. It is clear therefore that the spore stage was not reached when I "shook" the bees last autumn. If it returns this year it will be from outside sources.—W. J. Farmer, Redruth, May 16.

BEE-KEEPING IN SOUTH AFRICA.

[7117.] Some months ago I promised to send you a photograph of my apiary, with a few notes giving my experiences with the bees, and now have pleasure in telling how I first became interested in bee-keeping. After an unfortunate experience in South Africa with my first venture in poultry-keeping, connected with fancy stock and buying only pure-bred birds, my impetuosity and want of experience cost me dearly, for disease broke out among my chicks, and spread so

rapidly as to get beyond my control, and a whole year's hard work was lost, and my venture ended disastrously. I therefore gave up and went to New Zealand, and subsequently returned to England, and, being determined to live an outdoor life, started gardening at Bournemouth, where I first became interested in bees by watching the little creatures busily at work on the heather blossom in the vicinity of my garden. I had decided to return to South Africa sooner or later, and resolved to "go slow" in my future ventures, but fixed on bee-keeping as an item of my future business as a means of profit-making. After my return to this country, however, six months elapsed before I got my first colony of bees, which I obtained as a nucleus from a lady bee-keeper, perhaps known to B.B.J. readers,

MISS A. E. PULLINGER'S APIARY, MALVERN, NEAR DURBAN, NATAL, SOUTH AFRICA.

Miss Ritchie, St. Anne's College, Pietermaritzburg, to whom I am much indebted for her kindly advice and assistance in initiating me into the "wonderland" of bee-keeping. I was told to bring a "boy" (all Kaffirs, whatever age, are called "boys" out here) to carry the hive, lest the combs got broken if subjected to the rough handling of the railway officials. Eventually my first hive of bees was carefully placed on a stand in a pretty flower-garden, destined to become in time a large apiary. I was at first very much afraid of the bees, and not seldom beat a retreat when venturing to do any manipulating. However, after a few weeks this was all changed. I gained confidence by dealing gently with the bees and going calmly about my work. Gloves were soon dispensed with, and the veil often found unnecessary. Within a month of my start I was invited to take a swarm out of a house in Durban. I was at first undecided, not knowing how to go about it. However, I agreed to make the attempt, and managed to get the bees into my swarm-box all right, and if I had allowed sufficient ventilation they would have been safe; but at the suggestion of well-meaning friends (lest the bees should escape during the train journey) the box of bees was covered with a heavy sack—this, too, on a hot January day! The natural result was the death of the bees. It took me a long, long while to get over this, the first of many sad experiences. Other swarms were added by purchasing, making seven colonies the first year. The next year, by dividing, getting swarms out of trees and hills, &c., I increased my apiary to twenty stocks. Since then I have moved my apiary some thirty miles down the south coast to Lower Umkomaas, and have added twenty-five swarms (now strong stocks) by getting the bees out of houses, stations, churches, and even a chest of drawers! So now in my third year I have forty-five colonies, all strong. I was once asked to take a swarm out of the roof of a house on a sugar estate five miles distant from the railway. On arrival I was told that five years ago some one (evidently not a bee-keeper) had made an attempt to get the bees out, during which operation nearly all the live-stock on the farm, including a horse, had been killed by the infuriated insects! I was there-

fore cautioned to be very careful. I knew, however, that I should have a hot time of it, as there were five other swarms in the floors of the same house, and honey was scarce at the time. Going up and on to the roof with my Indian helper, we got to work. The removal of screws, some of which had been hammered into the sheets of iron roofing, was a tough job. After releasing the first sheet, which in eager curiosity I at once lifted, the bees just poured out, stinging for all they were worth! I called to my helper, "Peter, give me the ham——" The sentence was never finished. On turning round, my "helper" had vanished. I was alone with my "enemies." But I was determined to go through with my task, and kept on, and eventually, on raising two more sheets of iron, a truly beautiful sight met my eyes—great thick combs of honey as far as I could see, some old and dark, and some recently-gathered honey of a much lighter sealing. All this I carefully cut away, constantly driving the bees back with smoke. The bees, however, were rapidly getting beyond control, so without further delay I managed, by stamping on the iron, to bring help from without, and got some wet sacks thrown up to me until I had enough to cover up all crevices in the iron, which I had loosely replaced. The honey and brood-combs were put in bee-proof receptacles. I now knew that my troubles were over, and I was thankful! The battle with angry bees lasted one and a half hours. At dusk, when all was quiet once more, I went up for the bees, which formed a huge cluster as they hung up there. But they were quiet, and I got them into my well-ventilated swarm-box ready for transit. My reward was (1) an enormous swarm of bees, (2) about 80 lb. of honey, (3) 2 lb. of wax, (4) two pockets of sugar given me by the people of the house. Leaving at daybreak next morning, sitting on top of a load of sugar on a bullock wagon, with my precious burden of bees on my lap (to prevent too much jolting), the long span of oxen crawled slowly along, taking two hours in which to cover the distance, and so I left the sugar estate, but only to return several times afterwards for the other free swarms, which were eventually secured and placed in my apiary.

In regard to "balling" queens, in no fewer than six instances I found the bees "balling" their own queen, and after having caged her and put her in the swarm-box, I would run the bees in, naturally expecting them to at least take care of their own mother; but I invariably found the queen had been deserted and was dead. Since then I have contracted the "bee-fever" so badly that I decided to leave home, and have since gone into the business properly, so bee-keeping is now no longer a hobby. I devote my entire time now to the bees, and expect quite soon to have a hundred colonies. I find, strangely enough, that the winter months down here (Umkomaas) constitute the honey-season, whereas at Malvern (where I have a small apiary), ten miles inland, the honey-flow is on during the summer, and so by moving my bees I am able to obtain honey almost throughout the year. I am a regular subscriber to our much-valued bee-paper, the B.B.J., which I would not be without for anything. I enjoy reading it very much, and look forward with pleasure each week to its arrival.

Hoping my "experiences" will prove of some interest to English readers, and wishing all bee-keepers a successful season in 1908, I sign—(Miss) A. E. Pullinger, Lower Umkomaas, Natal, South Africa.

WEATHER IN SWITZERLAND.

[7118.] Here the protracted cold weather has kept back vegetation, and now, in consequence of the heat and stormy weather, it has been forced as in a hothouse. The heat has been too intense for the time of year, and the flowering period of plants will be very short, as they are all blooming together instead of consecutively. Sainfoin is already over in many places, and apples, pears, and chestnuts are in full bloom. I am afraid that in the plains colonies were not quite ready for the flow of nectar in such a premature harvest; but, if all goes well, it should be better in the mountains, where the harvest is later.—P. Odier, Celigny, Switzerland, May 16.

STOCKS ON SHALLOW-COMBS.

[7119.] To criticise the work of a correspondent so far away as Mexico may render the critic open to criticism, unless due allowance is made for climatic conditions by "F. W. B.," whose letter appears on page 193 in last week's B.B.J.

The comparison of the two stocks is not a fair one, if honey was the sole end in view; each stock ought to have been on an equal footing for a fair comparison. One yielded 60 lb. of honey, the other 33 lb. of honey and one comb of brood, besides building forty-six combs, sending out a huge swarm, and filling a case of sections.

In the absence of more details, I infer that the bees, from January 26, built their ten combs from starters, with the result that too much drone-comb was built. From February 3 to 17 the stock built and filled part of seventeen combs, five of which were used for other stocks.

This was good work, but your correspondent has not followed Heddon in his manipulation of the stock. Had I been working it, and then compared with other stocks, I would have prevented the production of so many drones by January 26, and allowed the bees the use of their own built-out combs. On February 3 the second story of the brood-chamber should have been placed below the first. Then on February 12 the position of the two stories of the brood-chamber should have been reversed, and a super placed in position above a queen-excluder. Assuming that the super would be nearly full on February 18, I would have removed the excluder and given a super of sections above the first one, and placed the third and fourth above the second so soon as the bees had half or three-quarters filled the one below it.

There is little doubt that the manipulations I have described would have kept the two stories full of brood and filled four supers of honey. The plan I have outlined would get the brood-nest of the two stories well occupied before the honey-flow began; then reverse these so that the brood comes clear to the super, which is now placed in position, and continue all super-work upwards, always in advance of the requirements of the colony.

My reason for asking for the experiences of those who have worked with two stories of shallow-frames was to see if any correspondent had used the lower story for queen-raising from a horizontal comb, and also got a virgin mated below with laying queen above.—J. Gray, Expert and C.C. Lecturer, The White Apiary, Long Eaton, Derbyshire, May 16.

BEES IN HANTS.

[7120.] My pen has been idle during the past few months, so far as regards contributions to the B.B.J.; but, like the bees, I am rousing as the weather improves. The calendar this year appears to have been all wrong, for, like others, we had our share of the great snowstorm of April 25. Yesterday (May 17) was an ideal day for the bees, and they seemed to be making the best of it. If the present state of things continues, we shall yet have a merry shout at the harvest-time.

I notice that Mr. Crawshaw has put some posers (!) to me during the past winter, which remain unanswered, and as they are now a bit stale, I propose leaving them *in statu quo*, unless Mr. C. repeats them, when I shall make an effort to reply.

I am glad to see that the Isle of Wight Fund is finding substantial support, and must congratulate Mr. Silver on his perseverance. More fortunate bee-keepers among us must surely sympathise with our brethren in the island, and will spare a swarm, even after the heavy losses of the past winter, or possibly will have the opportunity of driving some bees in the autumn. In either case, do not forget Mr. Silver's address, "Croydon Grove, Croydon." That gentleman will no doubt be pleased to supply you with a list of deserving cases in the I.O.W.

The mortality amongst bees during the past winter and spring up to date has been abnormally great, some bee-keepers I know of having lost their all. It shows very forcibly the need of attending to the store-cupboard in late summer or early autumn. A few pounds of syrup often makes the difference between living and dead stocks in the spring. Name sent for reference.—Hants Bee, May 18.

THICK V. THIN COMBS.

[7121.] To those intending to give the system of "thick" combs a trial during the coming season, may I be allowed to advise that ten combs be placed in the super-box for a start, and reduce to eight when well occupied by bees? If foundation only is used, start with twelve frames and gradually reduce to eight as they are being built out. Most bee-keepers will have an odd spare comb or two on hand, and if these are placed in centre, and foundation on either side, no difficulty will be found in getting the bees up, provided always that the whole ten brood-frames contain brood and are well crowded with bees. As soon as these conditions are fulfilled, place the super-box on (above the excluder), even if the weather is not good for honey-gathering, or the bees will soon be so crowded that preparation will be made for swarming; and do not forget to put plenty of warm wrapping on top.—Nondescript, Liverpool.

PRESS CUTTINGS.

LONDON BEE-KEEPING: HONEY IN THE CITY.

Bee-keeping in London can be made not only an interesting, but a paying hobby, so the *Daily Mirror* was assured recently by one of the leading bee-experts in the country, Mr. Abbott, of the firm of Abbott Bros., of Southall.

Mr. Abbott, whose firm has been connected with bees and bee-keeping appliances for many years past, assured the *Daily Mirror* that there was hardly any district in London where bees could not be kept, and would not produce a fair amount of honey in the season.

"Bees," he said, "will travel as far as

three miles from the hive in search of honey, and bee-keepers look upon a two-miles radius as quite a fair field to allow their bees.

"The parks and gardens of London would afford ample food for the bees, although I do not suggest that bees kept in the City would do as well as those kept in the suburbs, where fruit-trees and flower-gardens are common."

To demonstrate the practicability of bee-keeping in London, Mr. Abbott will erect a hive on the roof of the *Daily Mirror* offices to-morrow. This hive will be kept under observation by his experts, and the result of this unique experiment published from time to time in the *Daily Mirror*.

The *Daily Mirror* swarm will have to go far afield for its honey. The nearest hunting-ground will be the Temple Gardens, on the Embankment, but most of the Bloomsbury squares, Lincoln's Inn Fields, and Regent's and St. James's Parks will come within their scope.

All these places are well decked with flowers and flowering trees, and of the latter the lime affords excellent honey. It is to these that the *Daily Mirror* bees will fly in search of nectar, and will return to store it up in their hive on the *Daily Mirror* offices roof in Whitefriars Street.

The *Daily Mirror* hive will consist of some 25,000 bees, weighing about 5 lb. avoirdupois.

At frequent intervals one of Messrs. Abbott's experts will visit the hive, and examine the progress of the swarm, and observations will be made to notice what part of London the insects fly in search of their food.

Mr. Abbott is very sanguine as to the result of the experiment, and hopes that the *Daily Mirror* hive will produce a fair amount of honey.

In ordinary circumstances one hive will produce 60 lb. of honey, which, reckoned at the retail price of that delicacy—1s. a pound—equals £3, or more than the cost of a hive and swarm and the necessary appliances for bee-keeping in one year.

From his original swarm, the London bee-keeper could make his initial expenses in one year, and probably secure another swarm.—*Daily Mirror*, May 14.

TO DETECT ARTIFICIAL HONEY.

Artificial honey can now be made so like the genuine article in flavour that even the expert cannot tell the difference. Thick syrup of sugar is boiled with a minute quantity of mineral acid, which converts it into the same form occurring in honey. This is mixed with some natural honey of strong flavour, and thus closely simulates the real article. It is said that the following, known as Ley's reagent, will detect the spurious honey. Ten parts of silver nitrate are dissolved in a hundred parts of water, and to this twenty parts of a 15 per cent. solution of sodium carbonate is added. The precipitate is filtered, washed, and dissolved in 115 parts of a 10 per cent. solution of ammonium chloride. It must be kept in the dark in a well-stoppered bottle. The honey to be tested must be diluted with twice its weight of water. A few drops of the reagent are to be added, and heated for five minutes on a water bath in the dark. Natural honey turns brown, and shows a greenish-yellow fluorescence; the imitation turns a lighter tint, and shows no fluorescence.—*The Globe*, May 15.

Bee Shows to Come.

June 4 to 8, at Southampton (Hants B.K.A.).—Honey and Hive Exhibition in connection with Royal Counties Agricultural Society. Many prizes. For schedule, write Hon. Secretary, Hants Bee-keepers' Association, Bransgore, Christchurch.

June 30 to July 4, at Newcastle (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Schedules from E. H. Young, Secretary B.B.K.A., 12, Hanover Square, London. **Entries close May 28.**

August 5 to 7, at Halifax.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. Schedules and form of entry from John Maughan, Secretary, Blake Street, York. **Entries close June 27.**

August 12 and 13, in The Park, Taunton.—Somerset B.K.A. Annual Show, in conjunction with that of the Taunton Deane Horticultural Society. Increased Prizes. Sixteen classes, including eight open and two free. Schedules from L. E. Snelgrove, Hon. Sec., Cromla, Locking Road, Weston-super-Mare. **Entries close August 7.**

Queries and Replies.

[3705.] *Drone-brood in Worker-cells.*—On looking through one of my stocks for the first time this year, I discovered that all the brood (about four or five sides of frames) was drone-brood in worker-cells. The stock was a last-year's swarm, and all the frames contain new combs, drawn out from full sheets of "Weed" foundation. There are eight frames and ample stores. The brood is not compact; in fact, rather scattered, but by no means as irregular as I should imagine would be the result of a fertile worker. I did not see a queen, but that was probably because of not examining carefully enough. The stock has been working fairly well, and taking in a good amount of pollen. I therefore ask: 1. What has probably happened to the queen? 2. Would it be best, when a good number of the drones have hatched,

to give the stock a frame of brood and eggs? 3. If this were done, would the bees commence raising queen-cells if the present queen or fertile worker were there? 4. What would be the best course for me to adopt, as we have still a month to six weeks before the honey-flow starts here, and the stock is at present in a very fair condition? Your kind reply in this week's B.B.J. will very greatly oblige—F. C. P., Kettering.

REPLY.—1. It is fairly certain that the old queen perished some weeks ago, and that the queen since raised from a larva or egg left behind has never been mated, because of the absence of drones at the time. 2. You might try it; but the chances are against the plan, the bees being now in some measured demoralised by the drone-breeding queen. 3. There would not, under the circumstances, be any hope of queen-cells being started. 4. If a fertile queen is obtainable at a small cost, we should get one and introduce her.

[3706.] *Examining Stocks in May.*—On May 9 I went through my hives (twelve in number), and transferred the bees to clean ones. With the exception of one all were doing well, breeding in full swing and a little honey coming in. On coming to the hive No. 4, I found it weak, only four patches of worker-brood on each side of the centre comb and on the sides of the two adjoining combs facing the latter. The centre comb was full of eggs, some cells containing four or five. As I did not notice the queen, I set it down to a fertile worker, so left it for a time to finish the remainder. Next day being fine, I had another look at it, and this time easily found the queen, which appeared lively and in good health. I cannot understand the reason of so many eggs in one cell, as there are five or six other combs with plenty of empty worker-cells. I shall esteem it a favour if you would advise me in your next issue, also stating what will happen where there is more than one egg in a cell. This queen was hatched July, 1907.—F. LASHBROOK, Hants.

REPLY.—It is possible that the superfluous eggs in single cells arise from the prolificness of the mother-bee, it being well known that a queen will not deposit eggs beyond the area covered by the bees. This is, of course, owing to the fact that the eggs would not hatch for lack of warmth. No harm will result from superfluous eggs. They will be removed and either eaten by the bees themselves or destroyed.

[3707.] *Queens Cast Out Dead in May.*—1. Can you give me the probable cause of the death of the two queens enclosed? I picked them both off the alighting-board outside the hives. I saw the yellow queen some days before crawling outside on the flight-board, and she then looked very feeble. It was purchased as a pure Italian, but looks more like a hybrid. The stock is weak, but, on examination, I found that they had reared a queen. The black queen sent did very well last year, and, though not yet examined, the stock seems fairly strong. Both queens are two years old this season. Out of five stocks I have only one queen right at the present time. One is queenless, one has a drone-layer (a virgin), and the other two are as stated. 2. Are the queens being reared likely to do any good if they are fertilised by the drones now flying from the hive with the unfertilised queen? The fruit is in blossom, and, given good weather, there should be plenty coming in. All my stocks are well provisioned.—J. V., Bearwood, Birmingham, May 11.

REPLY.—1. The yellow queen has evidently been ruptured, probably by being accidentally crushed when the frames were being examined earlier on. This would account for the bees having raised a successor and casting out the injured queen. The reason of the black queen being cast out dead will probably be made plain when the condition of brood in combs has been ascertained by examination. We cannot say what has caused her to be cast out. 2. It is an established fact that eggs laid by an unimpregnated queen in worker-cells will produce drones capable of performing all the functions of those raised in the ordinary way from the eggs of a fertile mother-bee.

[3708.] *Making Artificial Swarms.*—I have two hives of bees, and wish to make them into three by artificial swarming. I note in the "Guide Book" it says, "Take frames of brood and eggs from one, and bees from the other," but I see no signs of queen-cells on the frames. I therefore ask:—1. Do the bees left queenless in the parent hive raise a queen for themselves without further help from me? 2. Can you give the maker of a small and serviceable extractor?—A BEGINNER, Bewdley, May 14.

REPLY.—1. Yes; the bees will start queen-cells in a very short time after realising the loss of their queen. But as you seem to anticipate some trouble in the method of making three stocks from two, it might perhaps be an easier task to make two from one, and thus have less disturbance of bees and combs. By the latter plan you only need to remove from the parent hive one comb on which the queen is seen, and place this in the new hive on the old stand. The parent stock is then removed a couple of yards away, warmly wrapped up, and left to raise another queen from the brood or eggs left behind. 2. Any of our advertisers will supply a serviceable extractor at from 15s. to 20s.

[3709.] *Uniting or Re-queening, Which?*—I bought a "cast" in 1906, and the bees did well for me in the following year; but this month I noticed they began to fail, and a friend who examined them for me said the stock was queenless, with no brood, but plenty of honey. He thought the next best thing to do was to wait for an early swarm, and unite the queenless lot to it. Shall I take his advice or re-queen? Reply will oblige—J. T. S., Romford, May 14.

REPLY.—Your friend is right not to advise re-queening, and with regard to uniting the queenless bees to a swarm, it is a question if they will be worth saving, as they will be all old bees and soon weed out.

[3710.] *Queen-rearing in Australia.*—Would you kindly give your opinion of enclosed article on "Queen-rearing," on page 193 of the *Australian Bee Bulletin?* It seems different from most of the

methods usually adopted.—G. L. WEAVER, Weston, Bath.

REPLY.—The paper referred to reaches us regularly every month, and we had already noted the method of queen-rearing as described therein. The writer (Mr. Reid) is not very happy in conveying his meaning clearly or concisely, and we have in consequence some difficulty in making out the exact procedure to be followed. If, however, it is easier to you, we do not doubt that it will answer all right; but without personal experience we cannot say more than this.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

T. P. (Manchester).—*Drone-brood in Worker-cells.*—1. It is not worth while to re-queen a stock that has probably lost its fertile queen so long ago as last autumn; the bees will be worn out, and not worth saving. 2. For reply to this, please refer to the answer to "F. C. P., Kettering," page 209. We have no doubt the cases are entirely alike.

B. E. B. (West Ealing).—*Artificial Honey.*—We are obliged for Press cutting sent, but fear the interests of bee-keeping would not be served by publishing the full method of manufacture, as proposed. It would be more likely to create want of confidence in the genuineness of honey sold in this country when the artificial article can be made equally good to the taste.

H. S. (Hants).—*Fermenting Honey.*—The sample sent is poor in quality, and it frequently happens that honey of that class granulates from the bottom, leaving the top portion liquid, and liable to fermentation as in sample. It could be used as bee-food if treated and the scum removed before using.

Suspected Combs.

NOVICE (Gloucester).—As comb sent is nearly new, and normal drones are already capped over in some cells, it denotes a strong stock, as stated. We find no trace of foul brood; it therefore is about certain that the few "suspicious cells" contain simply chilled brood, left uncovered during a cold snap, when the bees have clustered closer for warmth. We do not think you have cause for alarm now that weather is warm.

W. B. T. R. M. (Sittingbourne).—The stock from which your sample was taken is diseased, but it is not foul brood (*Bacillus alvei*). The appearance of the dead larvæ in both sealed and unsealed cells is that of what is known as "black brood," and as such the mischief is not so serious as the former. The present fine weather will help to overcome it.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

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TESTED ITALIAN QUEENS, pure, mated August, 1907, will sell 10 of the best, 7s. 6d. each; Imported Italians, 6s. 6d.; Italian Swarms, with pure Queen, £1. Order at once; several booked.—G. THOMAS, Pwllcrochan Rectory, Pembroke. g 23

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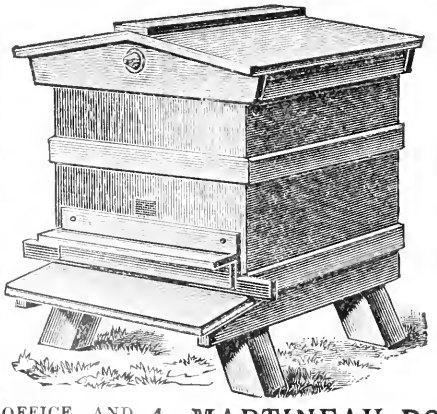

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The

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AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &C., AND W. BROUGHTON CARR

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

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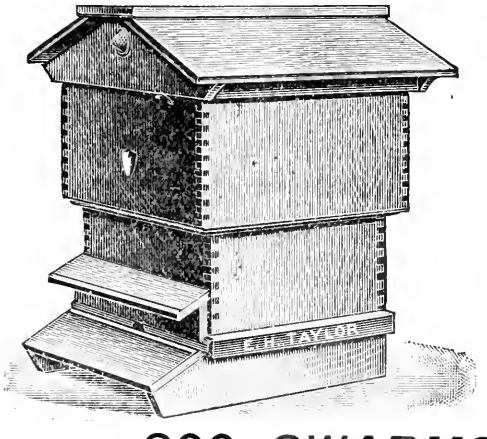

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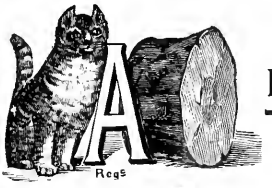
NEW  READY

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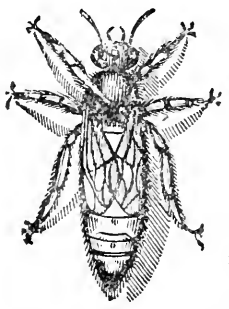

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held at 105, Jermyn Street, S.W., on Thursday, the 21st inst., Mr. W. F. Reid occupying the chair. There were also present Miss Gayton, Messrs. T. Bevan, W. Broughton Carr, E. Garcke, J. B. Lamb, G. H. Skevington, E. D. Till, E. Walker, and the secretary.

Letters regretting inability to attend were read from Colonel Walker, Dr. Elliot, Rev. H. R. N. Ellison, Mr. W. H. Harris, Mr. R. Godson, and Mr. F. B. White.

The minutes of the previous meeting were read and confirmed.

Six new members were elected, viz.:—Mr. R. H. Baynes, 51, Bridge Street, Cambridge; Mr. J. N. Bray, 33A, Ashburnham Road, Bedford; Mr. Ernest F. Dant, 52, Bridge Street, Cambridge; Mr. J. W. Moir, 30, Shandon Crescent, Edinburgh; Mr. Reginald S. Smith, 19, Elms Road, Clapham; Dr. Walker, The Grotto, Kirkby Stephen.

Mr. E. D. Till presented the Finance Committee's report, giving particulars of receipts and expenditure to date, which was duly approved.

The secretary reported that seven candidates had entered for the first-class examination, and that the papers written by them were now in the examiners' hands for adjudication.

It was decided to hear the lectures by successful candidates in the paper work on Thursday, July 16.

Mr. J. B. Lamb, honorary secretary to the Congress Committee, reported that there was every prospect of the Franco-British Conference of Bee-keepers on June 25 proving a great success. He had been in communication with the Agents-General of British possessions, who had taken up the matter most warmly. Many had definitely promised to send representatives on the occasion, whilst some of the Agents-General hoped to be present themselves. The Board of Agriculture had appointed a representative, and had asked Dr. Graham-Smith, of the Pathological Laboratory, Cambridge, to accompany their representative.

Owing to the kindness of Mr. Cowan, the chairman of the Council, who had provided the addresses of editors, letters had been sent to nineteen bee-keeping journals in Belgium, France, Germany, Switzerland, Canada, and the United States of America, inviting their readers to attend the Congress.

After careful consideration, the Committee had decided not to make a substantial charge for admission to the hall (including luncheon), as was at first contemplated, but to make a nominal charge of 1s. to help the fund required for meeting the expenses; visitors can therefore make their own arrangements as to refreshments. The above-named small charge for admission to the Conference will be collected at the door.

The proposal to have a joint exhibit of bee-keeping appliances had fallen through, owing to the failure of the exhibition authorities to provide the space required by the end of April. Subsequently (on May 6) an offer of the necessary space was received; but, owing to the lateness of this offer, the Congress Committee decided that the exhibition authorities had better communicate direct with the appliance dealers who had so readily expressed their willingness to take part in a joint exhibit in case they should be disposed to send separate exhibits.

The Committee was still giving careful consideration to the question of the most suitable subjects for discussion at the Conference, and owing to the kindness of the Editors of the BRITISH BEE JOURNAL a letter asking for suggestions appeared in their issue of April 30. When the Congress Committee had finally decided upon suitable subjects, these would be submitted to M. Sevalle in France, who had already suggested several excellent ones—with the request that his Committee would select a certain number, after which the Congress Committee on this side would select theirs.

Mr. Lamb finally reported that the Committee hoped to make arrangements for a visit to the "W. B. C." Apiary, Luton, Beds, a day or two after the Congress, in order that French bee-keepers might have the opportunity of seeing a well-arranged English apiary.

A discussion ensued on the question of the organisation of bee-keepers, and as a result it was decided to make an endeavour to form branches of the central association in districts where there are at present no organisations.

The next meeting of the Council will be held on Thursday, June 18.

BUCKS BEE-KEEPERS' ASSOCIATION

ANNUAL MEETING.

The annual general meeting of the Bucks County Bee-keepers' Association was held on Saturday, May 9, at the Congregational Schools, High Street, Aylesbury, Mr. W. Hooper Teed, Aston Clinton, in the chair. The attendance, though not large, was representative. The report and balance-sheet for the past year were

submitted; and though, owing to initial difficulties, so late a start was made last year, and the season proved so disastrous to bee-keepers generally, satisfactory headway has been made, and finances show a balance of assets over liabilities to the amount of £2 8s. 9d. The Earl of Buckinghamshire has accepted the presidentship of the association, and several of the principal county residents have become vice-presidents, including the Members of Parliament for Mid and South Bucks. A honey label in colour (design registered) and bearing the county arms has been prepared, and as this label guarantees the genuineness of the contents of the package to which it is attached, it is anticipated that its use will increase the demand for honey produced in Bucks. Arrangements have been made for the division of the county into districts, with direct representation of each district upon the county committee. In conjunction with the Bucks County Education Committee the association will during July conduct a "bee-van" lecturing tour, practical demonstrations and popular lectures being given at various points by the association's expert, Mr. H. Edwards. The co-operation is invited of all interested, and full information as to the association and its work can be obtained from the hon. secretary, Miss Scott Walker, 5, High Street, Slough.—(*Communicated.*)

INTERNATIONAL EXHIBITION IN FRANCE.

SOCIÉTÉ D'APICULTURE DES CHARENTES.

International Competition at Saintes, Charente-Inférieure, France.

The Société d'Apiculture des Charentes has pleasure in cordially inviting the attention of British bee-keepers to an important free competition which has been arranged for at Saintes, Charente-Inférieure, France, on July 10, 11, and 12.

Conditions and regulations may be obtained from M. Gaston Morice, secretary, Gemozac, Charente-Inferieure, France.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[7122.] Dull weather, with some rain and a little sunshine, has been our weather report for the past fortnight, and its adverse influence has greatly retarded breeding compared with the rapid expansion of brood-nests in continuous sunshine. The enormous difference between our present seasons and those of the early eighties is shown by the fact that in those days my bees were rapidly filling supers in the third week of May, and now, on the 25th of the same month, I am feeding most of my stocks to prevent the bees from starving, so that even with a change for the better we can hardly hope to see any honey stored for another fortnight.

Then our heavy losses of bees, due to the untoward season of last year, along with almost continual bad weather, have been hard to bear. Those of us who have a wide correspondence with members of the craft know how severe are the losses sustained. This makes it certain that many bee-keepers who otherwise would have been disposed to help our hard-hit brethren in the Isle of Wight will be prevented from sending their quota to the island. I have heard recently of bee-keepers who have lost every stock simply from starvation, spring dwindling, and the plague of mice, which are so prevalent this season. I suspect the inclement weather has driven the mice to seek shelter in the hives. I myself have lost several good stocks quite recently at my out-apiary from this cause, the combs and contents being eaten up by mice. The apiary is situated between two farms, and the farmers have been obliged to thrash out their corn to save it from destruction by vermin, which swarm in thousands, and the mice driven out have invaded the hives where the entrances have been large enough for them to get in. The combs were useless except for melting up into wax.

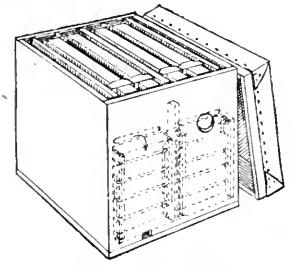
May swarms in our immediate neighbourhood will be rare. I heard of one swarm having issued near here, but returned in an hour to the parent stock: wise bees, if there was a good supply of food in the old home!

In response to a request to give my method of foundation fixing in the two-bee-way plain-top sections, I give my plan with pleasure, as I believe it to be the best, neatest, and the cleanest. I fold the sections square by pressure of the hand when folding them up; occasionally I have to give a tap or two with a light hammer at the corner. The foundation we use is "Weed" (extra thin), cut to fit, *i.e.*, 4 in. long by barely 4 in. wide. Now, to fix these sheets you want a fixer (Messrs. Abbott Bros. sell a very neat one). Take a section, place it standing with bee-ways top and bottom on a corner of a table near the fire (or you can use a table-lamp to warm the edge of the foundation);

warm one end, place it from the other side of the section with the end just over halfway inside the section; now take the fixer (which should be kept in a mug of cold water), give it a shake, then run it to and fro, using a little pressure while so doing on the warm end of the foundation, and it is fixed quite firmly. Mrs. Woodley has fixed from 500 to 600 per day, and put every one in the racks with dividers ready to put on the hives. A guide can be used to ensure the foundation is fixed in the centre of each section, but with use and practice this is not required. Of course the foundation when fixed should hang in centre and be square with the section and clear of bottom.—W. Woodley, Beedon, Newbury.

SMALL NUCLEI FOR QUEEN-MATING.

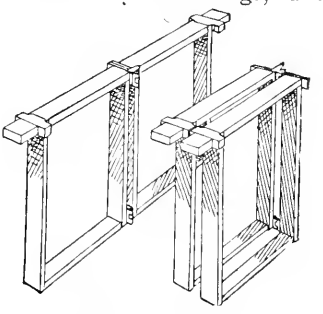
[7123.] A queen will get fertilised from a nucleus having for its combs three sections of honey with no brood or feeding if, as Mr. J. M. Ellis points out on page 204, it is made up with plenty of young bees and if the weather permits the queen to get mated within about a week. But this last "if" is a big one in the British climate, where fertilisation is often delayed until two or even three weeks after hatching. Such a nucleus must be broken up soon after the queen begins to lay, otherwise it will dwindle away or get robbed out. It is often



TWO-FRAME NUCLEUS.

inconvenient to utilise the queen so soon as this, and one does not then know whether she will turn out to be a drone-breeder or not, or whether she has been fertilised by a black or golden drone. It must be remembered that the nucleus will keep dwindling until young bees hatch—that is, until four to six weeks after it was formed. I find the time a nucleus is most likely to be overpowered by robbers is when the first young bees have just emerged and are too feeble to resist an attack.

For these reasons the smallest nuclei in Ripple Court Apiary are made up each on one of my special standard-sized frames, which fold so as to make two half-frames, containing sealed (no younger) brood, in hives fitted with my wall-feeder, as explained in "Queen-Rearing in England" and "Queen-Rearing Made Easy." In this way these little nuclei have every advantage, and our



FOLDING-FRAME FOR NUCLEUS-HIVE.

losses of queens in them in all weathers from June to September are no greater than in full-sized nuclei requiring four times as many bees.—F. W. L. Sladen, Ripple Court Apiary, Dover, May 23.

EXPERTS (?) AND FOUL BROOD.

[7124.] In connection with the Isle of Wight bee-purchases, I have met with a case where the expert of a county association certified all the stocks in a certain apiary to be free from disease, but every one a few days afterwards was found to be more or less affected with foul brood.

Fortunately they were not sent. Ought I to bring this before the county association?—John Silver, Croydon Grove, Croydon, May 23.

[It would be the proper thing to do in order that the expert in question may exculpate himself, if he can.—Eds.]

STARTING BEE-KEEPING.

[7125.] Enclosed is the advertised amount for a copy of the new edition of the "British Bee-keeper's Guide Book." I have just started with three stocks and have need of up-to-date instructions in bee-culture, which I hope to find in its pages. I may also say I have taken your B.B.J. from the commencement of this year, and find it contains very useful matter for all interested in bees; and as the most modern methods of bee-management are but little known in this section of Wales, I will endeavour to get your journal patronised in order to enlighten those who wish to make a start. I distribute my journals after reading to people who are inclined to make a move in bee-farming.

The weather here is changeable and cold just now; we had heavy hail recently, and the season generally is backward all around here. The present welcome change is therefore for the better.—(Captain) W. Hy. Harris, Cardigan.

BEES AND BUTTERCUPS.

[7126.] Referring to Mr. Woodley's note on bees and buttercups (page 192), I presume the buttercup he alludes to is the lesser celandine (*Ranunculus ficaria*), which is the earliest variety of buttercup. In this district it is a very good pollen-yielder, and bees are very fond of it. The true buttercup (*Ranunculus bulbosus*) flowers somewhat later, and in the month of June our meadow-lands in the Isle of Man display a perfect wealth of its golden blossoms. I have not noticed that bees are much attracted to this flower, very probably because at this time we have a variety of superior nectar-yielding flowers to which the bees give undivided attention.

I remember some years ago my surprise on being told by an Irish bee-keeper that his bees obtained surplus honey from the ragwort (called "cushag" by the Manx people). I pointed out a field near my apiary full of cushags, and, though a sunny day in midsummer, not a bee was to be found among the cushags, nor had I ever previously seen them working on that flower. But in a subsequent season, owing, maybe, to a failure in the usual succession of some other honey-yielding plant, I found my bees working very vigorously on the cushag, and obtaining sufficient surplus deleteriously to affect the flavour of our honey-crop.

Cases such as this have cautioned me not to be too dogmatic in my opinions, or to jump to the conclusion, as one is sometimes apt to do, that, just because certain things happen or do not happen in our locality or in our individual experience, we are entitled to say that a rule is established.

I am glad to note that scientists have discovered that foul brood, under certain circumstances and conditions, is curable by the bees themselves. This assertion, when made by practical bee-men in the past, has been received by some authorities with incredulity and scarcely-veiled contempt.—LANCELOT QUAYLE, Glenmay, Isle of Man.

[Our own view is that it was practical bee-men rather than scientists who discovered that bees "under certain circumstances and conditions" are capable of curing themselves of foul brood. This at least is our own experience as a practical bee-keeper, who proved it to his own entire satisfaction over thirty-five years ago.—W. B. C.]

[7127.] In view of the discussion in the B.B.J. on the above subject, it may be of interest to you to hear that during the last few days I have seen bees working the buttercups for nectar; and have also seen bees entering the hive powdered with yellow pollen, which on examination proved (in several cases) to be buttercup pollen. So that, in this district at any rate, bees do gather nectar from buttercups. I have not so far seen any bees collecting pollen from that flower; probably because they can more easily obtain all the pollen they require from the gorse and broom, which are now in full bloom and very plentiful in this neighbourhood. I may say the bees which were noticed to be powdered with buttercup pollen were not carrying any pollen in their pollen-baskets.—(Miss) A. D. BETTS, Camberley, Surrey, May 23.

BEES AND ORCHIDS.

[7128.] On examining one of my stocks to-day I found the bee enclosed with, as you will see, three or four curious horns on its head. Will you kindly state in the B.B.J. what it is and the cause of it? I might add that the stock from which it was taken was not very strong.—H. GREEN, Dorchester.

[The above letter may be taken as one more of the ever-recurring enquiries which reach us every year in the month of May, enclosing bees with similar "horns" to that sent by our correspondent. It shows the wonderful way in which Nature achieves her ends by the aid of insects, and as the true cause or meaning is full of interest, though not generally known even to bee-keepers, we extract some particulars which appeared in our pages six or seven years ago in reply to a correspondent who sent specimen bees identical with those before us, whereon the "attachments" or horns appear as in the cut, Fig. 1. These horns are the pollen-masses, or pollinia,

Fig. 1.

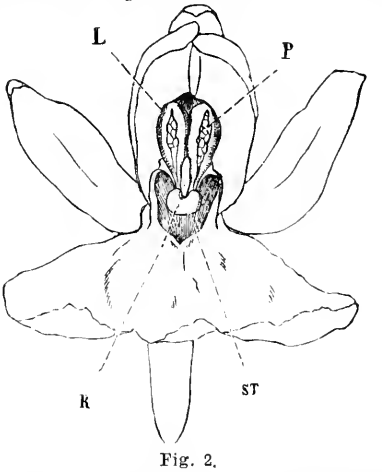


Fig. 2.

as they are called, of the *Orchis mascula*, now blooming freely in many of our moist woods and shady places.

Fertilisation is effected in orchids quite differently from what it is in such flowers, for instance, as those of our apple and pear trees. And so, with regard to the former, if we examine an orchis bloom from the front (Fig. 2) we shall get an idea of its structure, Fig. 3 giving a side view of the same flower on rather a smaller scale. The wrinkly stalk is seen in Fig. 3, and just below it, and between R and ST, Fig. 2, is the nectary or tube in which the nectar collects, and down which the bee has to put her tongue in order to reach the nectar. The stigma, ST (Fig. 2), is bilobed, consists of two almost confluent stigmas, and lies just under the pouch-formed rostellum, R. The anther just above it, L, consists of two—one of which, on the opposite side, corresponds to L—widely-separated cells, which are open longitudinally in front, and each cell contains a pollen mass or pollinium, P.

Fig. 3.

The pollinia removed from these cells, and showing their relative positions, are seen at Fig. 4. Each pollinium consists of a number of packets of pollen-grains united together by elastic threads. These threads unite at the lower end of each pollen-mass, and form what are termed the *caudicles*, at the bottom of each being attached a viscid disc. Each pollinium has its own separate disc, and the balls of viscid matter constituting these discs lie enclosed together within the rostellum. The rostellum is almost a spherical, somewhat pointed projection overhanging the stigma, and seen in Fig. 3 just over the opening of the tube. Without going into full details of the structure of this complicated organ, we can explain that the pollen-masses are enclosed in two pouches, with the viscid discs downwards, these being covered by a very delicate membrane whilst in position. To understand how these pollinia get transferred to a bee's head, and fertilisation effected, we must watch a bee; and we shall see her alight on the lower petal or *labellum*, as it is called in orchids, and at once insert her head as far as she can get it into the tube. This is not far, for it is stopped by the projecting rostellum, this act rupturing the thin membrane and exposing the viscid discs, which now adhere to the bee's head. The viscid matter has the property of becoming hard and dry in a few minutes.

Fig. 4.

After taking the nectar, when the insect withdraws its head, one or both of the pollinia will be firmly attached to the head and project like horns. The firmness of the attachment is very important, for if the pollinia were to fall sideways or backwards, they could not fertilise the flowers. Now, the most marvellous contrivance exists by which the pollen-masses are brought into position for touching the stigma. The caudicle has the power of contraction in such a way that it causes the pollinium to sweep through an angle of 90 deg., but always in the direction towards the proboscis of the insect, in the course of thirty seconds on an average. The time it takes to complete this movement is about sufficient to enable a bee to fly to another plant. On a bee entering the flower from the alighting-place, the thick ends of the pollinia exactly strike the stigmatic surface. This is also viscid, but not so viscid as to pull off the whole of the pollinium from the insect's head.

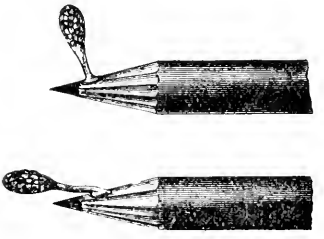


Fig. 5.

It is sufficiently viscid to break the elastic threads and leave some of the pollen-grains on the stigma, and in this manner the insect may, by means of one pollen-mass, fertilise several stigmas until nothing but the caudicles remain. Darwin, in his "Fertilisation of Orchids," describes how the whole of the process of removing the pollinia may be shown by inserting the point of a pencil into the nectary. The pollinia stand at right angles to the sloping side of the pencil, and if this is held still for half a minute it will be seen that the pollinia sweep towards the point of the pencil until they lie in a horizontal position (Fig. 5). We have many times used this means of illustration, which has always caused astonishment and admiration of this contrivance for ensuring the fertilisation of these flowers.—EDS.]

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. Macdonald, Banff.

Caucasians.—This is how a writer in the *American Bee Journal* looks on these lately over-belauded bees:—"They are nice bees, but are objectionable for

various reasons. First, in spring and fall they are inclined to rob; second, they are inclined to swarm; third, they fasten many of the frames to the front of the hive at the bottom; fourth, they do not gather as much honey as the Italians. I have given them lots of room, and they swarmed in spite of the room. I confined them to small room below, and could hardly get them into the supers. I have decided to quit breeding this bee." Fortunately, the Caucasian boom did not "catch on" in our country.

Carniolans.—At the recent convention in America these bees received considerable commendation, and the following treatment was recommended to check the swarming instinct so very prominent in this race:—"Give all the room the queen can occupy in the way of empty comb up till the opening of the clover flow, and then shake out all on full sheets of foundation on the old stand, giving surplus-room at once. Place the brood in weaker colonies or in nuclei, and treat these the same in a week or two. Treated in this way, they gave more comb-honey than Italian, and did not swarm." It makes me wish I had some of these breeders this season to work up my weaklings in time for the harvest.

A Good Idea.—"Towards the close of the honey-flow, in order to have as few partly-filled sections as possible, I use dummy-boxes, as long as the super is inside and as wide as the super is deep. These boxes are made as deep as the width of one or two rows of sections, including separators. I place one of these, either the one or two size, on each side of the super, with the open part of the box close against the side of the super, and put the partly-filled sections over the centre of the hive, where they will have the best chance of being finished up and capped over." This is a tip worth noting and experimenting with, especially in heather districts.

Spring Feeding.—The editor of *Gleanings* believes that "the accumulating testimony seems to show that spring feeding to stimulate bees is a practice that should be discouraged. The best time to feed is in the fall, at which time the colonies should be fed liberally and in *big feeds.*" He further italicises the following, written by a contributor:—"I wish to go on record as saying that if bee-keepers would give their bees proper care and attention during the latter part of the season they would require very little attention during the following spring until time to put on the sections, and weak colonies would then be the exception instead of the rule." Many good bee-keepers have grave doubts if feeding at any time to stimulate brood-rearing is profitable, and many more believe that the loss is at least equal to the gain.

Split Sections.—"We find by our orders in the manufacturing department that the sale of split sections in England is beginning to ease up," writes Mr. Root in an editorial. A misapprehension seems to have arisen in regard to the term "split." If *split top* is meant the statement is incorrect; if *three side split* sections are meant, then I am prepared to receive the statement as quite in accordance with fact. In my limited experience full sheets inserted in grooves or in split sides almost invariably bulge or buckle, and leave a defect in the finished section. *Full* sheets, short of sides and bottom by $\frac{1}{4}$ in. or $\frac{1}{8}$ in., yield the best-finished and *heaviest* sections.

Dyspepsia Cured by Honey. — The *American Bee-keeper* records the case of a man who had this trouble in so acute a form that he could not sleep without a narcotic. He became the possessor of a few colonies of bees, and began to eat the honey, a little at first, and then more of it. The effect was that he got gradually better, and eventually the dyspepsia disappeared. A case occurs to me where insomnia was cured by the free use of honey. The sufferer got up and took a good spoonful of liquid honey mixed with milk, and soon a sedative effect followed, so that he fell into a sound sleep, rising quite refreshed in the morning. To cure a cold, put two spoonfuls of honey and the juice of half a lemon in a tumbler. Pour in boiling water, stir the mixture thoroughly, drink as hot as possible, and go to bed.

McEvoy's Spring Management.—The *Canadian Bee Journal* gives us this veteran's way of getting strong colonies. He doubles the number of his frames, supplying a second brood-body of dark comb previously bred in. "By this system," he says, "I get immense quantities of bees ready to do business with, and secure more honey than I could if I left the management to the bees and depended on one brood-chamber to give me an extra quantity of bees to do business with." This doubling the brood capacity is a common practice in this country, but this season I wish that I could get my best stocks to fill a single body-box of frames completely with brood.

Ripening Honey.—The *Australasian Bee-keeper* has a prize competition on this very important subject; for it seems that over there large quantities of immature honey are placed on the market, greatly to the detriment of successful marketing. Shallow settling-tanks and artificial ripeners are referred to, but in general the belief is that it is best ripened in the hive by the skill and care of the

bees. Yet, oddly enough, the first-prize essayist characterises the statement of the books that it should be left on until fully sealed as "to an extent misleading." While acknowledging that unsealed honey at times in a hot climate may be sufficiently ripe to keep, I would take exception to the statement that sealed honey can, in the same circumstances, be unripe.

Queries and Replies.

[3711.] *Utilising Queenless Bees.*—This is my first inquiry, and I shall be pleased to have your assistance. I have five stocks of bees in frame-hives, and a fortnight ago I found one of them queenless. In this predicament I was about to unite the queenless bees to one of the other stocks, but a friend strongly advised me to re-queen the colony, which I did, the queen costing 5s. 6d. Looking into the hive yesterday, I found only a handful of bees, some brood, but no food, and I could not see the queen. I gave them some soft candy, and to-day the few bees and queen are all dead, killed by robbers. I had the entrance reduced to a two-bee space. I also gave some candy to the other four stocks at the same time. The hives are located four miles away from my house. Can you tell me where I acted wrongly, as I am quite at a loss to understand why the bees were robbed and killed, not having had a similar experience before? Name, &c., sent for reference.—KILLIE, Kilmarnock, N.B., May 16.

REPLY.—The desirability or otherwise of uniting queenless bees is governed largely by the number of bees left motherless, or by the length of time they have been queenless. If the stock has had no queen all through the late autumn and the following winter, and the bees are few in number, they are not worth uniting to another stock at this season. They will all be old bees and will die off rapidly, and so will consume more honey than they will gather. In your case the bees were apparently weak, and by starting to feed them robber-bees got scent of a weak stock being fed and pounced down on it, with the result stated. You therefore erred by trusting the purchased queen to a stock too weak to defend its own hive from pillagers.

[3712.] *Honey-ripeners—Bees Refusing to Enter Sections.*—I shall be very much obliged if you will kindly favour me with answers to the following in next week's B.B.J.:—1. Would honey put into jars immediately after extraction be spoilt after being kept some time, or is it absolutely necessary to get a honey-ripener? If so, is it not possible to ripen honey without going to the expense of such an appliance? 2. I have a colony which is rather weak, owing, I think, to an old queen, and so I ask:—Would it be best to re-queen now, or should I unite the stock with the first swarm that I get? 3. One of my stocks is now storing honey fast in the brood-chamber, and I therefore placed a rack of sections above, but cannot get the bees up into same, although everything is packed up warm. Can you suggest any way of inducing the bees to enter the sections? 4. I have a box of shallow-frames about half-filled on one of Taylor's "Non-swarming" hives, and I wish to put a rack of sections on when ready; but owing to the make of the hive it is impossible to put the rack under the shallow-frames. Would it do to put the sections on top of the frames, and would the bees fill them? Thanking you in advance for kind replies to the above.—PERCY H. BURCH, West Ewell, May 23.

REPLY.—1. If the honey is capped over and ripe when extracted (as it should be), there is no need for using a ripener at all; in fact, the majority of good bee-keepers allow their honey to ripen on the hives, and so have no need for the above-named appliance. 2. We should procure a young queen of this year, and introduce her to the stock, as such queens will be obtainable cheap in a week or two. 3. It is simply a question of making the section-rack as snug and warm as possible if bees are strong enough in numbers to crowd the brood-chamber well. Some use "bait-sections"—*i.e.*, one or two half-filled ones from another stock—to coax the bees up; but if honey is coming in well the bees should go up of their own accord. 4. It is quite a common practice to put a rack of sections above the box of shallow-frames already in position on top of brood-chamber.

[3713.] *"Clipping" Queens, and Various Queries.*—I should be much obliged if you would answer the following questions in the B.B.J.:—1. As I am away all day, and sometimes two or three days together, from my apiary, I ask if you advise cutting one of the wings of the queens in all my hives, in order to prevent swarms decamping and being lost altogether? It is probable that I have lost many swarms in this way, and would like to prevent future losses. 2. Do you think clipping the wings does any harm to the queen? 3. How much do you cut off, and is the cutting done all at one time, or a bit at a time? One of my hives has killed off the old queen and raised another, which hatched out from three weeks to a month ago, but there is not a single egg in the hive, nor can I find the queen, although this is not usually a difficult task for me. Last Friday I put a frame full of eggs into the hive, and on looking through it yesterday (Tuesday) saw no sign of a queen-cell. The eggs were not a day old when I put the frame into the hive. Do you think the queen is there and has not yet been fertilised? I have never yet failed in finding a queen when I wanted to. 5. Is it possible to get a two-framed nucleus strong enough to gather surplus honey on July 1? 6. In Malan Bros.' advertisement of Italian swarms, does the 17s. 6d. for a 3-lb. swarm include the queen? Hoping I have not asked too many questions, and thanking you for a reply.—J. C. THOMPSON, Leicester, May 20.

REPLY.—1. Personally we never clip queens' wings to prevent loss, and in your case it might easily end in loss of the queen and part of the swarm, seeing that the clipped queen would fall to the ground, unable to fly, and might easily starve to death from exposure if left for two or three days helpless on the ground. If two or three swarms came off in your absence, it is easy to imagine the disastrous consequences that might follow when the bee-keeper is away for three days at a time. 2. Our advice is, don't try the clipping plan. 3. The usual way is to remove the greater part of one wing at a single cut by means of a small pair of sharp scissors. 4. The weather of the past month and more has been all against the chances of successful mating, so you might wait a little longer before deciding that the queen is either lost or unfertile. If the latter, drone-brood will soon be found in worker-cells. 5. Hardly possible, seeing that it takes six weeks to build up a colony to full strength. 6. Yes; a swarm is not complete without its queen.

[3714.] *Bees Superseding Queen.*—1. Can you please tell me why my strongest stock of bees threw out the enclosed queen dead? I bought the stock in question thirteen months ago, and the vendor assured me that it had swarmed the previous season. I have now examined the frames, and find five queen-cells started, and the bees are working as usual. The queen was cast

out on the 21st, and I examined the hive on Saturday, the 23rd. 2. I will be glad if you will also tell me what race of bees queen sent belongs to? I ask because I have three other stocks, and they are all more gentle in disposition than the one from which the dead queen came. I take the B.B.J. every week, and the information derived from its contents has been of great service to me. Thanking you in anticipation of replies.—S. T. RACKHAM, Abergavenny, May 23.

REPLY.—1. It seems clear from examination of the dead queen that she died from an accident of some kind, though how caused we cannot guess. The under side of her abdomen is coated with a white substance, impossible to define or to tell how it came there. This may, or may not, have had something to do with the bees superseding their own queen and raising another, but we see nothing wrong beyond what is stated above. 2. The queen had a slight admixture of Italian blood.

[3715.] *Advising Beginners.*—I am a novice in bee-keeping, and have only recently supplied myself with a couple of stocks, having previously digested, to the best of my ability, such literature as I could readily purchase on the subject, including the "Guide Book." I trust you will forgive my asking the following questions, which may seem to you unnecessary:—1. We are warned in several publications—including the "Guide Book"—not to open the hive too often, for fear the queen is "balled" by the bees, but nowhere is any indication given of how often one may with safety open the hive, whether once a week, once every three days, or oftener or less often. I assume the frequency varies with the seasons. Is this so? 2. What indications show the arrival of the "honey-flow"; has it commenced yet? There are the apple-blossoms, wallflowers, horse-chestnuts, and lilac, besides many other garden flowers, and bees have been collecting honey and pollen from the fruit-blossoms for the past three weeks. When, therefore, may the honey-flow be said to have commenced, or has it not yet commenced? 3. Yesterday, when watching one of my hives (which was at the moment without a queen, although there was one in a travelling-cage on the top of the frames), I noticed a number of bees flying from the hive, which stands on a wooden platform surrounded by smoothly-levelled earth, drop on to the ground some yards away, and seem unable to fly again, jerking themselves forward, running in all directions in an aimless manner, and seldom appearing able to fly more than about a foot at a time, and eventually crawling back on to the platform, and so to the alighting-board. Were they merely hunting for the queen? 4. I have a hive containing six frames full of brood and four frames of foundation not yet drawn out. This morning I saw the bees busy making drone-cells. Does this indicate an intention to swarm shortly? 5. At what date ought stimulative feeding to cease? I suppose the answer would probably be "as soon as the honey-flow commences," and this brings us back to my query No. 2. 6. Which is preferable for stimulative feeding, syrup or candy? I have now been a reader of the BRITISH BEE JOURNAL and the *Bee-keepers' Record* for practically the whole of this year, since I first entertained the idea of bee-keeping, and I look forward to Thursday each week with great interest. I shall be much obliged if you can give me the information I ask, and beg to enclose my card.—A BEGINNER, Dulwich, S.E., May 19.

REPLY.—1 Our correspondent hardly does himself justice, at least so far as his estimate of the "Guide Book" goes, if he will read that work carefully. By referring to page 122 it will be found that bee-keepers are cautioned against disturbing their hives unnecessarily, the warning being further on described as "untimely manipulations, especially in the spring," because of the danger of queens being "balled" in consequence of the disturbance. A good bee-keeper never opens a hive in spring without having a valid reason for so doing; his object—apart from risk of "balling" queens—is to keep the brood-nest as warm as possible at that season, and to forward that desideratum he adds extra coverings and conserves the warmth in every possible way. To remove quilts, lift out frames, and keep the hive open for ten minutes so reduces the temperature that hours may elapse before it is restored. Our reply, therefore, is simply confirmatory of the advice given in the "Guide Book"—in other words, don't open hives at all in early spring unless the need arises; and when it does handle the combs quietly, only uncovering one or two at a time, and cover up again as quickly as may be. 2. If bee-forage is plentiful, the weather fine and warm, and bees are seen busily passing in and out of the hives in scores, it may be safely assumed that there is a "honey-flow" on, even if it be not the main inflow of the year. In some localities the main crop comes from fruit orchards and raspberry plantations, lime-trees, &c.; but in the best districts white clover, sainfoin, field beans, &c., form the chief sources, white clover being by far the most valuable plant of all for the main honey-crop for summer, while common ling (*Calluna vulgaris*) is exceedingly valuable as an autumn honey-plant. 3. We are unable to say what has caused the bees in question to act as described, but it is quite certain they were not "hunting for the queen," as stated; nor can we understand how the bees could "crawl back" on to the alighting-board several yards away. 4. It is quite usual for bees to build some drone-comb on the edges of worker-cell foundation when the hive is getting crowded preparatory to swarming, but with only six of the ten frames occupied, the other four frames of foundation not being even built out, it is very unusual. It is not, however, likely that the bees will swarm till they need room for breeding and honey-storing. 5. Stimulative feeding is not needed when honey from natural sources is obtainable outside, nor can a date be named; the time varies so much according to season and location. 6. Candy is never suitable for stimulative feeding. Finally, we advise our correspondent to read chapter 21 in "Guide Book," on "Feeders and Feeding" (pages 108 to 116), and he will never be at any loss with regard to feeding his bees at all times.

[3716.] *Managing Swarms.*—I have a swarm of bees that came off on May 19, and was left in the hiving-skep till the following day, when it was put in a frame-hive on ten standard frames, fitted with foundations. The swarm weighed about 6 lb., and during the one day they were in the skep the bees built two pieces of comb, each piece as large as my hand, and partly filled them with honey. I am a complete novice with bees, so I am writing to ask how I can find out if the bees have a fertilised queen with them, and any other useful advice you can give me on managing the bees properly.—R. M. GADD, Lamorbey, Kent, May 25.

REPLY.—The best advice we can give is, lose no time in procuring a copy of the "Guide Book," for if you have to depend on our query and reply columns for all the information needed as time goes on, there will be very little hope of your attaining any success with your first hive. Full directions for all bee-operations will be found in the book named, with illustrations from life, showing how bee-work of all kinds is performed.

[3717.] *Stimulating Bees.*—As I am a beginner, and your reply to "G. Thomas" (3700, page 198) seems to apply to my case, perhaps you would be good enough to give me a little more information

on the same subject? I fed my bees in April with syrup in an inverted jam-jar, the mouth being covered with twilled calico, and I found that when it had been on the frames for a day or so the calico "bellied" upward, in concave form, into the mouth of the jar, as though, when the bees had taken a certain quantity, the air did not replace the syrup consumed. I therefore made a hole or two in the calico with a hairpin to admit air, and the syrup was then consumed very rapidly (about 1 lb. in three days), but the brood did not increase as rapidly as I think it ought to have done. This I attributed to the abnormally bad weather of April until I saw your reply quoted above. I therefore ask:—1. Should I in the circumstances have been right in only allowing the bees to get the syrup by sucking so strongly as to create a vacuum in the bottle? 2. Am I right in concluding from your reply previously quoted that, if much syrup is taken down, the bees will breed slower than if a small quantity only can be obtained? Name sent for reference.—INQUIRER, Derbyshire, May 20.

REPLY.—1. Yes; the moist surface of the calico as the syrup oozes through it should be quite enough for stimulating purposes, if kept supplied with syrup not too thick in consistency. 2. If too much syrup is given, the bees will store it in the cells, which should be occupied by brood only. It may be taken for granted that if the food disappears too slowly, the calico used is too thick for the intended purpose.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 4 to 8, at Southampton (Hants B.K.A.).—Honey and Hive Exhibition in connection with Royal Counties Agricultural Society. Many prizes. For schedule, write Hon. Secretary, Hants Beekeepers' Association, Bransgore, Christchurch.

June 30 to July 4, at Newcastle (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Schedules from E. H. Young, Secretary B.B.K.A., 12, Hanover Square, London. **Entries close May 28.**

July 16 and 17, at Sleafcrd.—Show of Honey, Hives, and Bee-Appliances in connection with the Lincs Agricultural Society, Bee-Department under management of the Lincs B.K.A. Fourteen classes. Liberal money prizes and silver medals. Schedules from R. Godson, Hon. Sec., Lincs B.K.A., Tothill, Alford, Lincs. **Entries close June 12.**

July 22 and 23, at Burslem.—Annual Show of the Staffs B.K.A., in conjunction with the Staffs Agricultural Society. Liberal prizes. Five open classes, including one for single 1-lb. Section and single 1-lb. Jar. Schedules from Joseph Tinsley, Chebsey, near Stafford. **Entries close June 20.**

July 22 and 23, at Cardiff.—Annual Show of the Glamorgan B.K.A., in connection with the Cardiff and County Horticultural Society. Members', Novices', and Open Classes. Substantial money prizes. Schedules from W. Wiltshire, Assist. Hon. Sec., Maindy Schools, Cardiff. **Entries close July 16.**

August 5 to 7, at Halifax.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. Schedules and form of entry from John Maughan, Secretary, Blake Street, York. **Entries close June 27.**

August 12 and 13, in The Park, Taunton.—Somerset B.K.A. Annual Show, in conjunction with that of the Taunton Deane Horticultural Society. Increased Prizes. Sixteen classes, including eight open and two free. Schedules from L. E. Snelgrove, Hon. Sec., Cromla, Locking Road, Weston-super-Mare. **Entries close August 7.**

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

W. J. S. (Hayes End, Middlesex).—*Painful Effects of a Bee-sting.*—We are glad to know that the little boy soon recovered from the distressing effects of the bee-sting, though it would doubtless considerably alarm his parents while the trouble lasted. Fortunately such cases are extremely rare, and it would serve no good purpose to publish details, as our correspondent desires, in the hope that some reader could tell of a remedy, because what cured one would probably have no effect whatever on another. Our advice, therefore, is that persons so constituted that a single bee-sting would affect them in the manner described should keep away from beehives altogether, thus avoiding risks. It may serve to illustrate our point if we say that, in our exceptionally long practical experience, we have only known one similar case to that in question, the victim being a lady of mature age and rather stout in build. She was, moreover, an enthusiastic and successful bee-keeper, but a single sting on the face had so serious an effect as to confine her to bed, under medical care, for a couple of days or more. Various remedies were tried to overcome the trouble, but nothing availed except the simple precaution of wearing her bee-veil when near the hives.

J. W. JACKSON (Newfield).—*Drone-breeding Queen.*—1. As the dead queen sent "has never bred anything but drones up to May 15," it becomes clear that she is old and worn out, and in consequence is useless. 2. We fear it will do no good to give eggs and brood to the stock, as the bees will not be likely to raise a queen under the circumstances. It will, however, do no harm to try them.

MRS. BALLEINE (Jersey).—*Bees Dying Rapidly in April and May.*—The paragraph in question has gone the rounds of the evening papers, and may be classed as nothing more than a maximum of fiction on a minimum of fact. There have been heavy losses of stocks throughout the country, and some are ready to attribute the whole of them to the Isle of Wight bee-disease, which is bad enough in itself without having all the trouble attributed to it.

J. W. (Norfolk).—*Defaulting Honey-buyers.*—We are making inquiries on your behalf, and hope to secure a satisfactory solution of your just complaint in a few days.

L. Case (Templecombe).—*Directions for Hive-making.*—We are much obliged for your reply (given in the *Carpenter and Builder*) in response to a request for simple directions "how to make a frame-hive" by recommending the "Bee-keeper's Practical Note-book." We may also add that in the book referred to are directions "How to Build a Bee-house," along with other useful information.

Forrester (Lyndhurst).—*Using Combs from Suspected Hives.*—The sealed brood in comb was nearly all alive when received, and if kept warm would, with few exceptions, have hatched out, at least a dozen young bees having bitten their way out of the cells shortly after comb reached us. This fact warrants the assumption that there must have been more than the mere handful of bees in the hive when breeding was going on, and makes it probable that the bulk of the bees had deserted the hive and joined on to some other stock, especially when we found some adult dead bees lying head foremost in the empty cells. As you have destroyed the few bees left, it only remains to refer to using the combs again, and we think you will run no risk if they are sprayed with solution No. 8 in "Guide Book" recipes, as there is no foul brood in comb sent.

George Chambers (South Woodford).—*Using Partly-combed Sections.*—1. If the drawn-out combs of last year are clean, the section will be very useful in getting the bees into them, but combed sections from which honey of previous years has been extracted are not suitable for table use when refilled. 2. Lilac-blossom is of no use to bees. 3. You will find the best of "hints" with regard to the wholesale price to ask for sections by perusing our prepaid advertisement columns each week. The rest of your questions need lengthy replies, far too long for our space. Besides, all the items mentioned are fully dealt with in the "Guide Book," which all novices should possess if they hope to do well with their bees.

Democo (Peterboro').—*Queen Cast Out by Swarm after Hiving.*—The dead queen sent appears to have been badly mauled by the bees before being cast out. Why this should be it is hard to say, unless she was injured when hiving, and the bees, finding the mother-bee useless, then "balled" her. The wings were twisted out of shape, and in any case she could never have flown again.

A. Todd (Osseli).—*Using Suspicious Combs.*—Since the signs of disease were so very slight, there will be no risk in using them if sprayed with solution No. 8 in "Guide Book."

Inquiring Subscriber (Chichester). — *Wax-moth Larvæ Found in Hive.*—You are quite right; the larva sent is that of a wax-moth (*Galleria cercana*)

Queen-bee (Hanley Castle, Worcester).—*Bees and Poultry-keeping as a Business.*—By joining the Worcester B.K.A. you could get expert help in your inquiries regarding the prospects of obtaining a livelihood from bees and poultry in that county; but we may say your best plan with regard to bee-keeping will be to try a few hives (three or four at most for a start), in order to see how you like the pursuit, before thinking of fifty to one hundred hives.

Suspected Combs.

A. H. (Southampton). — There is no disease in comb sent.

R. Double (Essex).—We find no foul brood (*B. alvei*) in comb, and most of the sealed brood would have hatched out if left in the hive. The few sealed cells containing dead larvæ have the appearance of black, or pickled, brood, except that there is no watery substance on the surface of the larvæ. We think the trouble will disappear in the present warmth and sunshine with honey coming in.

A. J. George (Malvern).—Comb only shows slight signs of foul brood in the incipient stage, so that with care, aided by preventives and the present fine weather, it may be kept under.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

JUNE SWARMS, 2s. 6d. per lb.—WAIN, Thorpe Bank, Wainfleet. g 43

SEVERAL HEALTHY SKEPS OF BEES, soon Swarm, 12s. 6d. each. — MULLIS, Egerton, Kent. g 46

FOR SALE, 20 Boxes, containing 8 wide Frames Drone Comb, clean, healthy, 5s. each; lots of 3 carriage paid; overstocked.—ROUSE, Rochford, Tenbury. g 45

QUEENS, choice 1907, 3s. 6d. each, per return. —TAYLOR, Hollyhurst, Boldmere-road, Wylde Green, near Birmingham. g 40

EXTRACTOR, Side Handle, Cog-gearing, Reversible Cages, Lids, used only 2 seasons, guaranteed, Taylor's, 27s. 6d.; want 18s.—VICAR, Ulrome, Driffield. g 39

BEE-HIVES.—About 50 substantial Bar-frame Hives to dispose of 30 empty, 20 stocked. No reasonable offers refused.—B. R. SWIFT, 8, Alexandra-terrace, Dorchester. g 39

"W.B.C." HIVES FOR SALE, nearly new, two with Non-Swarming Chambers, two with "Claustral" Chambers. Price 2 guineas, all complete.—F. TRUSLER, The Nurseries, Twickenham. g 41

FOR SALE, 4 dozen Shallow Frames, Drawn Out, very cheap, 12s. the lot, or exchange for Swarm of Bees.—H. CROWE, York House, Central-avenue, Wigston, Leicester. g 44

WANTED, to exchange, "Eadie" fitting Bicycle, 26 in. frame, guaranteed, for Bees, Hives, or Appliances, value about £3 10s.—THACKER, Wychall-lane, King's Norton, Birmingham. g 47

NATURAL SWARMS 3s. lb., English Bees, healthy, ready June. — BRADSHAW, Allerston, Pickering. g 44

WANTED, two Strong Natural Swarms, must be English Black Bees guaranteed healthy. —G. KITCHING, Station-road, Hathersage, Sheffield.

SURPLUS.—6 strong "W.B.C." Hives, as new, 2 Lifts and Body-box 15s. each; Supers of 8 wide, well-drawn-out Shallow Combs, wired, 7s. 6d. each; "W.B.C." Supers ready to nail together, 1s. 3d. each; also strong Honey Cupboard. Particulars on application.—BUTTERY, Moss Pit, Stafford. g 42

Special Prepaid Advertisements.—*Continued.*

GRAY'S SHOW JAR, fine sample of white flint glass, fulfilling all requirements of the Snow Bench, 3s. dozen, free on rail; sample, 6d., post free.—THE WHITE APIARY, Long Eaton. e 84

"THE PREPARATION OF HONEY AND WAX FOR THE SHOW-BENCH," by Joseph Tinsley, Lecturer and Expert to the Staffordshire Bee-keepers' Association. Scores of testimonials. One bee-keeper writes: "Full of hints both to beginners and those further advanced. A veritable gold mine to exhibitors."—Post free, 7d., from JOSEPH TINSLEY, Chebsey, near Stafford. f 74

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BEES.—A few good Swarms to spare, 15s. each.—W. SAUNDERS, Stapeley Manor, Odiham, Hants. g 29

STRONG HEALTHY STOCKS, in new Overton's Hives, 30s. each, splendid condition. — Further particulars, TURNER BROS., Sandpit Farm, Croydon. g 24

STRONG HEALTHY TOMATO PLANTS, Up-to-Date and Laxton's Open Air, 1s. doz.—F. W. GELDER, Sturton, Lincoln. g 21

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HEALTHY STOCKS, in Frame Hives, 25s., 30s., and 35s. each.—R. CARTER, Chartridge, Chesham, Bucks. i 60

THE FOLLOWING are offered in exchange for Swarms: Hearson 60-egg Incubator, Turkey Eggs, also bound volumes "Bee Journal."—HERROD, Luton. f 43

WANTED, 500 Swarms, before July 1.—Numbers, price, and particulars to HERROD AND STEWART, Luton. f 42

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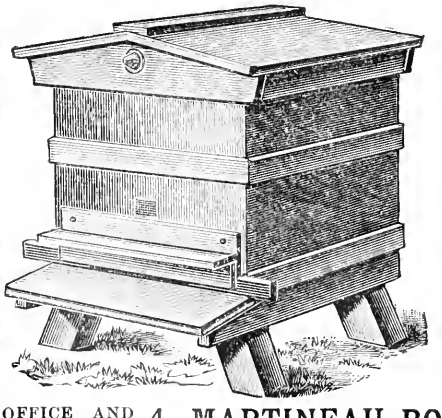

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JUNE 4, 1908.]

The British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR

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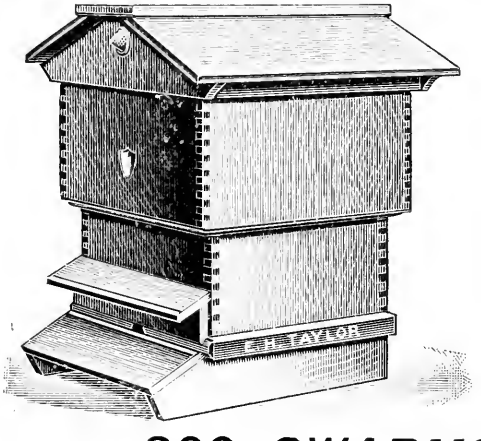

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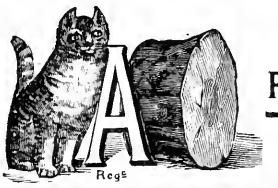

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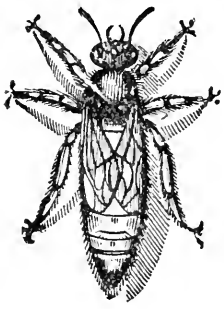

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Editorial, Notices, &c.

BEE-KEEPERS' ASSOCIATION FOR SOUTH AFRICA.

PRETORIA AGRICULTURAL SOCIETY OF INDUSTRIES.

One of the largest displays of bee-hives and appliances ever seen in South Africa was exhibited by Messrs. Cairncross and Zillen, Pretoria, at their stalls at the Pretoria Agricultural Society of Industries, held on May 6 and 7 in the show-grounds, Pretoria.

Hives of every conceivable variety and design were there, including "W. B. C." hives, hives for lecturers, observatories, nucleus-hives, skeps, &c.

These were made respectively by Messrs. James Lee and Son, London; J. T. Burgess and Son, Exeter; E. H. Taylor, Welwyn, England; also by the A. I. Root Company, G. B. Lewis Company, and the Falconer Manufacturing Company, of the United States.

All the hives were arranged in a large square to represent a model apiary, and, in addition to those named, thirteen South African hives manufactured by the exhibitors were shown, the latter being painted in various colours and numbered consecutively.

The South African hives are being sent to the Transvaal Government Experimental Farm near Pretoria.

A magnificent polished mahogany observatory-hive, manufactured by Messrs. James Lee and Son, London, containing six standard frames and seven sections, all well filled with South African bees, with brood in all stages of development, was a special attraction, and drew crowds of interested spectators. Then another handsome observatory-hive, holding only one brood-frame and four sections, with a feeder above, was on view. This hive contained Sladen's Golden Italian bees with queen, and was greatly admired by all bee-enthusiasts.

To give a full and complete description of everything on view would occupy too much of your space, but we may say the benches contained swarm-catchers of all kinds, British and American, super-clearers, and appliances of every kind used in up-to-date apiaries.

The bee-keeping industry has a great future before it in South Africa, and ere long we believe it will make great progress. The Transvaal Department of Agriculture is giving every encouragement to farmers and others to add this industry to their other pursuits. Then the climate is especially suitable for bees, and some parts of the country are found densely wooded with nectar-producing trees, besides an abundance of wild flowers during the summer season. Fortunately for us, foul brood is unknown in any part of South Africa, but the danger exists of its introduction by the importation of bees from other countries.

A Transvaal Bee-keepers' Association has been formed in Johannesburg, open to membership for the whole of South Africa, their Excellencies the Earl and Countess of Selborne being patron and patroness, General Louis Botha president, the vice-presidents including the Minister of Lands, the Director of Agriculture, and several gentlemen of known influence in the Transvaal. There is a committee of fifteen well-known bee-keepers, with Mr. H. W. Blower (P.O. Box 2,903), Johannesburg, as secretary. The Pretoria district committee is now in course of formation, with Mr. F. Percy Crighton (P.O. Box 542) as secretary. Other districts will follow, and it is hoped soon to have every town represented. The subscription is the moderate amount of 10s. per annum.—(*Communicated.*)

KEIGHLEY AND CRAVEN B.K.A.

Bee-keepers of the Keighley and Craven districts of Yorkshire having decided to organise for their mutual benefit, a meeting was held at Keighley on May 9, presided over by Mr. H. L. Biggs, Keighley, and among those present were representatives from Keighley, Cowling, Silsden, Oakworth, Carleton, and Ingrow.

The proceedings were of a most harmonious nature, and, after the discussion following the chairman's remarks, it was unanimously decided to form the Keighley and Craven Bee-keepers' Association, and that J. J. Briggs, Esq., Guard House, Keighley, be invited to become first president.

A committee was formed, consisting of Messrs. Groves, Dewhurst, Calvert, Laycock, Pickles, Fletcher, Lowcock, Whitehead, Moore, and Bailey. Mr. Ellis Wright, Sykes Head, Oakworth, was elected secretary, and Mr. A. Pollard, Silsden, treasurer.—ELLIS WRIGHT, Secretary, Sykes Head, Oakworth, May 27.

"SWARTHMORE'S" VISIT TO EUROPE.

The following has just reached us from Mr. Pratt ("Swarthmore"):—

"Have engaged passage to Bremen by *Kaiser Wm. d. Grosse*, sailing from New York June 2, arriving June 9. Shall be at Apiary of 'Haunschild,' Weissbach, Germany, by the 13th, and at Vienna by the 20th. Do not know full plans, but will keep you posted. Thanks for your kind note and invitation. Should like to accept it, but hardly think

I will be able to do so. Wishing you success with the bees, I am, yours in apiculture, E. L. PRATT, Swarthmore Apiaries, Swarthmore, Pa., U.S.A., May 21."

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

AMONG THE BEES.

A BACKWARD SEASON.

[7129.] All over the North reports come in showing clearly that this has been a disastrous season for apiculture. Every correspondent agrees that the circumstances are abnormal and almost unprecedented. The percentage of the death-rate is excessive, but worse in a way is the extreme number of weaklings. Many of them were fairly strong at the end of winter, but they have dwindled down to mere handfuls, with the queens, as a correspondent puts it, "dying of a broken heart." The number of queenless stocks was heavy, the number from which queens lately mysteriously disappeared is extraordinary, and the number of drone-breeders is astonishing. One bee-keeper, after picturing in the gloomiest terms the results of an extensive round he had made playing amateur expert, sums up by saying: "I never before saw stocks so weak in bees in all my experience, and everywhere I have been I find matters as bad, so that I am not any worse than my neighbours. Although not naturally pessimistic (he is an ardent enthusiast), still the conditions obtaining in this part of the country for the past two seasons considerably damp my ardour." My own experience is as bad as any going. I never before had so many dead, so many weaklings, or so few really first-class stocks at the advent of June. From several sources I learn that English swarms, especially early ones, are all but unprocurable. The closing days of May have, however, been gloriously bright and sunny, with an excessive heat-wave, so Old Sol may quickly work a marvellous change! Aye be cheery!

Nature-study.—In the latest Memorandum on Nature-study and the Teaching of Science in Scottish Schools, just issued by the Education Department, we find bee-keeping again recognised:—"Observatory bee-hives and ants' nests, and similar devices for the study of insect communities, can now be very easily procured, or with a little knowledge constructed, and these afford valuable opportunities for Nature-study of an interesting kind. In the country bee and ant communities can usually be studied at hives and ant-hills in the neighbourhood. Bee-hives are also an interesting addition to a school garden." Here is an excellent opportunity for some philanthropist to present hives of bees to various schools, with the object of encouraging self-help of the best paying kind. I fear that the fraternity are again to let slip the present admirable opportunity of spreading abroad a knowledge of our craft by means of the exhibitions now open in the two capital cities of our island. As far as I hear, Scotsmen seem utterly oblivious of the loss they are incurring by not taking advantage of the tide which, taken at the flood, might lead, if not to fortune, at least to a vast extension of the pleasing pastime of apiculture. Could not the B.B.K.A. step in and make a national affair of it, a real British exhibit of bees, honey, and bee-keeping appliances? Some Southerners, apparently, think we are a benighted fraternity up North; and if this holds true they might thus educate us to practise a higher and better standard of excellence.

Honey at Exhibition.—From far-away Victoria we learn that our Australian cousins, alive to the importance of bringing their honey prominently before the public, have resolved to make an exhibit at the Franco-British Exhibition in London. Not only so, but their Minister of Agriculture, anxious to further the industry, and believing that there is a good market in the Old Country, has resolved to subsidise the consignment by giving 1½d. per lb. The Department further purchased a quantity for distribution by the Agent-General in London as an advertising medium. One ton of honey is to be exhibited. What is Scotland doing to advance apiculture?

Mice in Hives.—I was interested in reading that these pests have been making their ravages felt this season to an unusual degree. I have heard of quite a number locally, and have had two of my own colonies completely destroyed by their offensive depredations. In one case two did all the mischief, in the other I found six young ones and the two parents. All the parts of the comb containing pollen were completely eaten away, while the solid blocks of honey were left untouched, showing that mice have not a "sweet

tooth." I am rather puzzled to understand how they could force their way in at such small openings, as the entrances were contracted with perforated zinc. I do not wonder that bees fail to flourish in a mice-infested hive, as the sanitation is far from perfect.

A Plurality of Queens.—In reading up Buffon lately I was somewhat surprised to discover that even in his day it was asserted that more than one queen could exist in one hive. Here is an interesting quotation:—"Some assert that there is not above one queen in every hive; but this later observers affirm not to be true, there being sometimes five or six in the same hive. These are called queen-bees, and are said to lay all the eggs from which the whole swarm is hatched in the season." And again:—"Several young queens are observed in every hive at the beginning of summer." But this latter might be directly traceable to preparations for swarming. I had an idea until I met with the above that the existence of several queens in one hive was a modern "invention," but this goes to establish the truth of the proverb or saying that there is nothing new under the sun.—D. M. M., Banff.

QUEEN RAISING AND MATING.

[7130.] The season now being favourable and several articles appearing in the BEE JOURNAL respecting queen raising and mating, in my simple way I will endeavour to give you my experience, which may possibly be interesting and useful to some of your readers.

I have been a successful queen-raiser for some years now, and over eight years ago I adopted a small mating-box taking four frames, these frames being made so that the four will exactly fit into a standard frame. Foundation is fitted into them, and the small frames placed in the full-sized "standard," which is then taken and placed in the brood-nest of a good colony, to be filled with brood and stores. Some of my stocks may have three or four of these frames in them at one time. The frames so filled are better placed in stocks situated about a mile from the apiary, where you want to get the queens mated, the reason for this being that when it is desired to get the small mating-boxes stocked with bees and brood you can go to this out-apiary and obtain them without any fear of the bees leaving the small hive, as would happen if the bees were taken from hives in the apiary where you wanted the mating-boxes to stand.

Another successful way to stock them with bees is when a swarm has issued from one of the stocks, and a portion of this swarm can be successfully taken to stock small mating-boxes.

To stock the mating-boxes with bees and comb containing brood in various stages (mostly sealed, if possible), take your small hive, and place near the stock in which the small frames are; then lift out the frame containing the four small ones; remove the latter out of the larger one and attach the top-bars to them, which is done by a most simple arrangement without damaging a cell or displacing a bee. All adhering bees are placed in the mating-box along with the combs, and if there are not sufficient bees, shake a few young ones from another frame also (taking the precaution to see the queen is not removed). This small hive is now placed on the stand it is to occupy for mating purposes. The above is of course done when you have queen-cells about to hatch or virgin queens on hand. When transferring a queen-cell, all that is required is merely to press it carefully into one of the centre combs.

I find that, having suitable weather, I can get queens hatched and laying in from ten to twelve days, and if I have other cells ready at this time I remove the laying queen and again give them another cell or virgin, and so on until the close of the season. If a young laying queen is kept in one of these small mating-boxes too long the bees will swarm. To prevent this, use a small piece of queen-excluder over the entrance.

A most important matter is to be sure the small colony is kept well supplied with syrup-food, the mating-boxes being provided with a back-wall feeder.

I have so far spoken about the boxes and frames. The next most important thing is to procure suitable queen-cells or virgins to put into them.

I have tried the artificial cell-cups with the grafting of the larvæ, and been fairly successful with them, but give me the more natural way of raising queens if stock is wanted that improves and not deteriorates. To obtain these I take a stock that has a prolific queen selected for her good qualities, *i.e.*, prolificness and honey-gathering. In this stock there is a frame containing four strips of comb about 1 in. wide, it having been in the hive only sufficiently long for the queen to lay in the cells. If the queen is now removed the bees will commence to build queen-cells upon these strips at once. Or another way is to shake a few frames from a strong stock into a four standard-frame nucleus, and then give them the frame containing the strips. The greater portion of the shaken bees consisting of young nurse-bees, they will stay in the hive, and also be the most suitable for queen-raising.

Unfortunately, I cannot explain the system so well as I could personally to

anyone visiting me. I send you one of my small hives with the necessary frames, and if you think it worth using for the purpose of illustration, please do so. You may also keep the hive, and, if you choose, give it a trial, and return it in the autumn. Trusting my ideas may be beneficial to some others in the craft and hoping for a good season.—HERBERT POTTS, Warrington, May 29.

P.S.—I find I omitted to say that at the close of the season all the bees from the mating-boxes are united together, the small frames being placed in the large ones, and go to make up one or more stocks, to be again split up in the following spring.—H. P.

BEES AND FLOWERS.

[7131.] It so happens that I can help just a little to settle the question raised by your correspondent S. Jordan in B.B.J. of March 19 last (page 116). Years ago I was sitting idly watching a bee at work on the flowers in front of the house, when I was greatly astonished to see it fly from one flower to another of an entirely different kind. After working a short time on this, it returned to the first kind, and later made the change again. At this distance in time I can give no particulars as to circumstances. That is the only observation of the kind made by me in the course of forty-seven years; but it is quite possible that to a limited extent the same thing is going on all the while.

Messrs. Editors, allow me to congratulate you on the fine quality of your present corps of contributors. Never before were they so able; never so bright. Long may you flourish.—Cordially yours, C. C. MILLER, Marengo, Ill., May 19.

[In thanking Dr. Miller for his kindly word of appreciation, we add a line to say we are never more pleased than when a contribution reaches us from the pen of his esteemed good self.—EDS.]

EXPERTS AND FOUL BROOD.

[7132.] Referring to the letter of Mr. John Silver (7124, page 213), the expert may have been deceived owing to the fact that it is quite possible for foul brood to exist in a hive in the sealed-over condition without its being apparent, except to a very experienced eye. I myself have known experts to be unable to find foul brood where I have known it to exist in the sealed-over form. They looked for perforated cappings, which in very many cases do not show for months. I have known foul brood to be in this state when it never showed in the open cells. No one should be too positive in calling the experience of others to account in this disease. The man much accustomed to foul brood, which many experts are not, can almost invariably tell which of the sealed-over cells are diseased. There is an appearance of "deadness" about them not easy to detect by the untrained eye.

Bees and Buttercups.—I have observed the bees on these flowers. As Mr. Lancelot Quayle says, they work in some seasons on flowers which are ignored at other times. It all depends on whether better-liked sources are available or not. Bees are not machines; they exercise choice in visiting flowers. As an example of differing experiences, I may mention that I have seen bees gather olive-green pollen from furze at one time in the year, whereas at another time it was deep orange. Two persons may easily vary in their experiences without being in error in either case.—W. J. FARMER, Redruth, May 29.

BEES IN THE ISLE OF MAN.

[7133.] We have now had eight days of ideal bee-weather, continuous sunshine, with the result that the bees have fairly revelled in it. During the week I have supered nine out of a dozen stocks, and in every case the super was occupied at once, as honey is being collected in abundance. One stock has already a super nearly filled. I have never seen more wealth of early bloom than I observed these last few days, although the spring has been backward. If this weather continues for a few weeks I am sure whatever bees have survived the winter will give a good account of themselves.

So many disheartening accounts have appeared in the B.B.J. recently as a result of the past bad season that I have been prompted to send you this pleasing picture of bees in the Isle of Man.—J. J. MOUGHTON, Laxey, Isle of Man, May 31.

(*Correspondence continued on page* 226.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

For the first time in our long list of bee-garden pictures we are enabled to illustrate on opposite page an apiary owned by four brothers, all zealous bee-men, each of whom, being now married, has an apiary of his own at his new home. There is also a fifth brother who keeps a good many hives, so that we have here what may be truly termed a real family of bee-keepers. One of the brothers, the one seen bareheaded, sends us the following notes, which need no addition from us. He says:—

"In sending a photo of part of our apiary at Burnaston, near Derby, I may say it belongs to the four brothers Varty

seen in the picture, one of whom is the writer of these notes (M. E. Varty). It is now about fifteen years since we commenced bee-keeping, by attending a sale by auction, a few stocks of bees in skeps being included in the catalogue. We purchased a good strong lot for 5s., knowing very little about how to deal with our purchase. But we were intent on learning all we could, and with this object bought a few books on bees, among them the 'Guide Book,' which was found to be the most useful of all for either beginners or others. Our next purchase was a stock of bees in a frame-hive, and then we started making our own. All those seen in photo are home-made, except the two skeps and the one we bought as will be seen, a few 'Wells' hives in the photo, but, after a good many years' trial, we do not think much of them, and I would not recommend them to beginners. For myself (as the writer of these notes), I like the 'W. B. C.' pattern best of all. One of my brothers, however, has got a 'Wells' hive, and when I visited him last year I had a look through it, and on one side of the dummy was a good strong lot of bees, but a weak lot on the other—a state of things often found with the 'Wells' hive. Only in exceptional cases are both lots found to do well.

"The portable wood building partly seen is 20 ft. long by 10 ft. wide, and in it was done all the hive-making, &c., and

THE BROTHERS VARTY'S APIARY, PLEASLEY, NEAR MANSFIELD, DERBYSHIRE.

stocked with bees, as mentioned above. As time went on and hives were got ready for use, we began driving bees for skeppists. We had the bees for driving, and in this way we were able to get together an apiary of about thirty-five hives in a few years. We got a very good strain of black bees from one old skeppist, which proved very useful on the show-bench, and we got many prizes with them at shows. We have also been successful at local shows with bees, honey, and wax; but never secured such big 'takes' of honey as we read about in the B.B.J., the most we ever secured from one hive being just over 100 lb., which I think was not bad from a district where there is little bee-forage besides white clover and a few lime-trees. There are, in it also all four of us (as seen in photo) have spent many happy hours in bee-chat. The second figure in photo has gained the third-class expert's certificate, the fourth from the left without hat on being the writer of these notes. We also have another brother, a real bee-man who keeps a good few stocks. All five of us are now married, and live in various parts of the county, each of us having an apiary of his own, and we are agreed on the folly of keeping bees by those who take no interest in them and are unwilling to learn. One man I know has not examined the brood-chambers of his hives for fourteen years. He has never seen a queen, and is content if he gets a few pounds of honey for home use. I am going to try to stir him up this

summer, as I shall help him to the best of my ability, if allowed to do so. In conclusion, I may say the county expert visited my apiary at Pleasley on May 11, and said my stocks were the strongest he had examined this spring, which has been very bad for bees all over Derbyshire. The season of 1907 was by far the worst I have ever known, many stocks having died for want of food. I am glad to say we have never had a single case of foul brood among our bees up to the present time, and have only used the ordinary preventive measures recommended in the 'Guide Book.' I close by wishing the B.B.J. and all bee-keeping friends a prosperous year in 1908."

(*Correspondence continued from page* 224.)

ROSS-SHIRE NOTES.

SOME SEASONABLE TOPICS.

[7134.] *Strengthening Weak Colonies.*—Things are looking up a bit now, and, so far as the stronger colonies are concerned, rapid progress is being made. The weaklings are still backward, and if let alone would be profitless, unless for autumn work. At an early date they will be doubled, with combs of brood removed from the strong colonies, the latter being started anew on foundation or drawn combs. In this way we benefit alike the giver and the given. The queen of the weak lot may be prolific, but has no chance to display her powers, while the one heading the stronger colony is liable to be crowded out with new honey and pollen or inclined to "ease up" once her combs are fairly filled with brood.

By judicious manipulating we keep all our queens in full lay and our colonies ever progressive in building up for the July honey-flow.

Section-nuclei. — Referring to Mr. Sladen's comments in last week's issue (page 213), I think there must be some confusion of ideas as to the real object aimed at in the use of small mating-boxes. When it is realised that the small-comb system is meant solely for queen-mating and not with a view to nuclei-forming, all the difficulties vanish, seeing that queens can be successfully mated from the section-box. Mr. Sladen admits this. Why break up full colonies in forming nuclei for virgins? On the latter plan, should mating be deferred, those combs are broodless when the queen begins to lay, and you must break up yet another colony to form substantial nuclei. Queenlessness or lack of a laying queen for any length of time is harmful alike in the case of full colonies and standard-depth nuclei. I prefer to start off the latter with laying queens fertilised from the mating-boxes, so that the full-size nuclei suffer no setback through lack of continuity in egg-production. Nuclei made up in this way have everything in their favour and can be built up into full colonies very rapidly.

Supering.—Here, in the North, we do not expect to do anything in this line until white clover blooms towards the end of June. In earlier districts the flow may come on before colonies are strong enough to do really good work. Oversupering must be guarded against. The bee-keeper should think twice before inserting an empty rack beneath one partly filled. Last summer, for instance, the latter plan proved fatal to all hopes of saleable surplus, even in the case of strong colonies. In bumper seasons supers can be put on anyhow, but when confronted with untimely or uncertain honey-flows and colonies beneath par, it pays to be conservative. When the first rack is partly worked out, place above a second baited with three drawn combs taken from the rack below.

Repeat this procedure as the racks are successively occupied, removing the full supers when sealed, but until then leaving them undisturbed and always close on to the brood-nest. Worked in this way the tiering system is quite safe, and the crop of sections well finished, even should a break in the weather bring the honey-flow to an untimely end.—J. M. Ellis, Ussie Valley, May 30.

BRIEF NOTE FROM N. NORTHANTS.

[7135.] Bees in this part have fared very badly this winter, many bee-keepers having lost several stocks, and from observations I have made around, most stocks throughout the district are a long way behind in reaching full strength. One bee-keeper (a skeppist) had one swarm on May 19 and another on the 24th. I am trying to get several members for the Northants County Association, and so far have secured five new members around Peterborough. Trusting for a better season this year for all bee-keepers.—L. Andrews, Longthorpe, May 23.

BEES AND BUTTERCUPS.

[7136.] In connection with the recent interesting discussion in the Bee Journal, the following notes may be of interest:—On Wednesday last I noticed, at Newton Ferrers, in Devonshire, a few hive-bees working on buttercups. On returning home to Surrey, I walked yesterday about 200 yards through a field with a fair sprinkling of buttercups, and in that distance counted six hive-bees, one small wild bee, and two flies a little smaller than the hive-bee (drone-fly?) working on

buttercups. As I have fifteen stocks only about 100 yards distant, and counted a dozen hive-bees on a single small hawthorn bush on the edge of the same field, I think it may be concluded that while bees do visit buttercups, they do not display any great preference for them, and they are probably not of any special value as bee-forage.

The bees were gathering from buttercups both honey and pollen, and from the systematic way they probed to the base of each of the five petals of the flower, it is evident that there is the seat of the nectar.—T. J. P., Guildford, May 30.

THE SEASON IN AUSTRIA.

[7137.] At present my thirty-nine hives are crowded with bees, and I am expecting a lively time with swarms before many days are over. You will no doubt readily understand how busy we bee-men expect to be with the prospect before us of a real good honey-season. I hope our brethren in the craft in England will share our pleasant outlook, which promises so well for bees and bee-keepers.—HENRY RATHBORNE, Trieste, Austria, May 11.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Buttercups (page 177).—What is a buttercup to a honeysuckle? This is not a prize conundrum, and there are no roots of ranunculus offered for correct solutions. But, for the cure of wisdom, and popularly speaking, there is no limit to the ability of the bee to put its tongue out, doctor wise, and if the be-sung and bee-sipped honeysuckle may, like the Æsopian stork, make its long-necked offer with honourable satisfaction as a dish, then surely the buttercup need not flaunt in vain the longed-for nectar in its golden-lacquered cup. Well, then, "To bee or not to bee?" It may be that this pregnant question has been asked before, but, polliniferous or not, it must have been capable of bearing relation to this flower of fancy. It may be an inversion to say so, but, nectar or no nectar, the buttercup itself would contain no honey did the bee not visit it, and would remain an utter cup without a "b"!

Buttercups and Daisies (page 177).—Whilst I have not yet seen a honey-bee at work upon either of these flowers, my regard for them will be greatly increased if there should be sufficient evidence that they do attract. We shall have to refurbish our songs of childhood, and give a still higher rank to those already sufficiently rank plants! How would this meet the case?

Buttercups and daisies—
Oh, the pretty flowers!
We must sing their praises
All the summer hours.
Yielding up their nectar
When the day-break dawns:
We must never hector,
Though they spoil our lawns!
Spring and autumn phases
Find their service ours:
Such good news amazes.
Oh! the useful flowers!

Esperanto in Babelon (page 178).—I would point out that unless the papers to be read at the conference are to be in this modern Volapük, it will not be of much use to its votaries as a substitute for the dictionary. Such papers may contain references to appliances which are known in either country, and technical terms which may not be known to the casual conversationalist, or even to the ordinary bi-lingual dictionary. This is not a criticism of the medium whose sphere seems to be ever widening, but merely a reminder that we have not, even in the bee-world, yet got rid of the ill effects of the early progenitor of La Tour Eiffel!

Heather Honey (page 178).—In this connection, and the question of its desirability for winter food, I am interested to find on page 272 of vol. xxxv. of the B.B.J. (second column) a reference to this from a German source:—

The writer (M. Freudenstein), referring to dysentery in bees, mentions the fact that when the cluster of bees get separated from the stores of honey in winter, and are "starving from hunger and cold, they resort to pollen, which they consume in excess, the more so as the water and honey necessary for its proper digestion fail them. The undigested residues accumulate in the intestine, commence to ferment, and dysentery soon breaks out. The same thing happens if bees have access only to very thick honey or gelatinous honey like that from heather."

Snow in April (page 181).—"Nuts in May" would seem to be as anachronous, unless they were of the warm-hearted type supplied by the coal merchant! It is interesting to look upon these two photographs, and to think that they are only a month old. They have indeed a wintry look, and the lower one is so Siberian that one would forgive the owner for wearing very thick gloves indeed when "among the bees."

And to think that by this time some of those very stocks may have swarmed!

Carbohydrates (page 189).—I will be good, and believe that Mr. Fisher is quite right in his contentions, and that articles of very different constitution may be made of the same materials, just as two

men of different constitution of mind may say the same thing in very different ways! Although even so, if their constitution is, as Mr. Fisher points out, peculiar to themselves, there is no reason why it should not appear peculiar to others!

Surely I did not try to make my correspondent contradict himself? I think not, but it would be rude to contradict. Of course one has the right to be rude to oneself, and I would not deny another's right for untold pots of honey!

As for the bear with a sore ear in my apiary, it may have been there, for there have been lots of "cappings" ruthlessly strewn about lately! Perhaps, as Mr. Fisher suggests, one escaped from Barnum and Bailey's Big Bruinery, and, deluded by the alliteration of Bees, after the respective hibernations, it may have wandered into my garden in an endeavour to get back! Poor bear! I hope it did not get back-bitten! But to judge from the noise, it must have bearly escaped with its life! I must apologise for my bees if they rated its hide too severely, and venture to express the hope that, since the rise, hydrates are now easier in the bear market!

Echoes from the Hives.

Trewoon Apiary, St. Austell, Cornwall.—I have had my first May swarm for five years on May 28, weighing 5½ lb. That is not bad for the English native, is it? Total number of queen-wasps killed during the month, eight. On May 15 I saw a bee visit three buttercups, then a dandelion, then other buttercups.—J. M. Best.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 4 to 8, at Southampton (Hants B.K.A.).—Honey and Hive Exhibition in connection with Royal Counties Agricultural Society. Many prizes. For schedule, write Hon. Secretary, Hants Bee-keepers' Association, Bransgore, Christchurch.

June 30 to July 4, at Newcastle (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. **Entries closed.**

July 16 and 17, at Sleaford.—Show of Honey, Hives, and Bee-Appliances in connection with the Lincs Agricultural Society. Bee-Department under management of the Lincs B.K.A. Fourteen classes. Liberal money prizes and silver medals. Schedules from R. Godson, Hon. Sec., Lincs B.K.A., Tothill, Alford, Lincs. **Entries close June 12.**

July 22 and 23, at Burslem.—Annual Show of the Staffs B.K.A., in conjunction with the Staffs Agricultural Society. Liberal prizes. Five open classes, including one for single 1-lb. Section and single 1-lb. Jar. Schedules from Joseph Tinsley, Chebsey, near Stafford. **Entries close June 20.**

July 22 and 23, at Cardiff.—Annual Show of the Glamorgan B.K.A., in connection with the Cardiff and County Horticultural Society. Members', Novices', and Open Classes. Substantial money prizes. Schedules from W. Wiltshire, Assist. Hon. Sec., Maindy Schools, Cardiff. **Entries close July 16.**

August 5 to 7, at Halifax.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. Schedules and form of entry from John Maughan, Secretary, Blake Street, York. **Entries close June 27.**

August 12 and 13, in The Park, Taunton.—Somerset B.K.A. Annual Show, in conjunction with that of the Taunton Deane Horticultural Society. Increased Prizes. Sixteen classes, including eight open and two free. Schedules from L. E. Snelgrove, Hon. Sec., Cromla, Locking Road, Weston-super-Mare. **Entries close August 7.**

Queries and Replies.

[3718.] *Preparing for Swarms.*—In May, 1907, all my stocks developed foul brood. The combs showed the disease in all stages. I tried to effect a cure by shaking bees from combs and starving, in the orthodox way, then putting them on foundation in clean hives. This spring the disease reappeared. I tried spraying, but it did no good, so I destroyed eleven stocks and thoroughly disinfected their hives. The six remaining stocks contain brood affected in the same way as the comb sent, so I have hesitated to destroy these stocks, as there is a difference in the appearance of the dead larvæ. As several of my bee-keeping friends have kindly offered to give me a few healthy swarms, I am most anxious to entirely rid my apiary of disease before they arrive. The hive from which I took comb sent contains nine standard frames, and the bees have filled these and are thickly clustered between the "W. B. C." body-box and the outer-case. I may also say queen-cells have been formed, some of which contain eggs, the others larvæ. My other stocks are on from six to eight frames each, and have queens hatched in 1907.—F. W. H., Devon, May 30.

Reply.—There is no foul brood in comb sent, and the treatment you have given to the hives affected last year will suffice to make the expected swarms safe from risk of infection when located in the hives you have disinfected, as advised in the "Guide Book."

[3719.] *Storifying for Surplus.*—I should be much obliged if you could find space to reply to the following questions in the B.B.J. I may say I am a regular reader of your paper. 1. Are queen-cells of last season used again this season for queen-rearing by the bees of a colony? 2. In the method of storifying for surplus described on page 61 of the "Guide Book," is a sheet of excluder-zinc to be placed between the upper and lower stories? Thanking you in anticipation—J. G. Cooper, Birmingham, May 26.

Reply.—1. Sometimes, but not always. As a rule the bee-keeper seldom heeds old queen-cells, but pulls them off the comb when unsightly or in the way. 2. No excluder is used in storifying on the plan described. The majority of bee-keepers now use shallow-frames for storifying instead of doubling with standard frames.

[3720.] *Making Artificial Swarms.*—Would you kindly answer the following? 1. I intend to make an artificial swarm, making two colonies from one, on the lines indicated in the "Guide Book" (pages 93-94), but I do not wish to go to the ex-

pense of purchasing a queen, and desire that the queenless lot should raise their own queen. My hive is fairly crowded—drones in small but increasing numbers, and queen-cells on frames, but hitherto without any eggs deposited. Should I wait till I see that the queen-cells are in occupation before I divide the colony, or should I preferably make the division at once, and leave the queenless part to raise its own queen in its own time and way? 2. The "Guide Book" recommends the transfer of a single comb of brood (page 93), but anticipates the introduction of either a laying queen or a ripe queen-cell. If, as in my case, neither is available, ought not a greater number of brood-frames to be transferred, say three? I enclose card.—D., Somerset, May 30.

REPLY.—1. In adopting the plan of "making two colonies from one," according to the "Guide Book," you can operate at once if the bees fulfil the required conditions, as stated in third paragraph of the chapter. There is no real need for providing either a queen o a ripe queen-cell for the parent colony, as the bees will raise a queen for themselves. No doubt it is advantageous to save time if either a queen or ripe cell is available, but apart from this the operator takes no heed at all of queen-cells, leaving this entirely to the bees. 2. When making two colonies from one, it is not recommended to take away more than the one comb on which the queen happens to be at the time.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

J. W. MOIR (Edinburgh).—*Bees Dying Outside Hives.*—There is nothing whatever in appearance of dead bees sent to help us in arriving at the cause of death. We fancy that the mischief has been caused by injudiciously spreading brood at so critical a time as the present; seeing that a very few hours of severe cold before the young bees hatched out would reduce them to the helpless condition in which they were found. You need not worry about the Isle of Wight disease, the symptoms being quite different in your case. Nor is it analogous to the "light grey dust" mentioned in the "Guide Book" when referring to "May pest." We have no doubt that all will go on well now that the weather is warm and bees working well in honey-gathering.

L. ANDREWS (Peterborough).—*Using Old Combs for Swarms.*—We would on no account use combs like sample for swarms. No good bee-keeper would tolerate them in his hives. Get new combs built on full sheets of foundation; it is cheapest, and every way the best in the long run.

X. Y. (Ludover).—*Drone-breeding Queen.*—You have evidently done no good by re-queening the stock after removing the drone-breeding queen some time ago. Whether the queen given a month ago was fertile or not we cannot say, but drones are now being reared in worker-cells, so the queen must be worthless. The dead larvæ in cells seem affected with black brood, judging from the appearance. If the stock is now weak in bees, we should not bother about it, but sulphur the few bees and clean out the hive for use with a swarm.

IVY (St. Austell).—*Questionable "Honey."*—The thin, watery stuff sent is not like honey at all, but reminds us of the thin syrup usually given in "open-air" feeding. It has neither the taste nor the smell of honey, and is little better than sweetened water.

W. C. STONE (Wellington).—*Insect Nomenclature.*—The insects sent are examples of the Bee-fly (*Bombylius*), the larvæ of which are parasitic, feeding upon caterpillars and other insects.—F. L. S.

PAX (Harrow-on-the-Hill).—*Expert Help Wanted.*—You would no doubt obtain the help wanted by writing to Major Fair, Hon. Secretary of the Middlesex B.K.A., Anlaby Road, Teddington.

Suspected Combs.

DIVA (Stroud).—We should risk supering the stock under all the circumstances named. It is not foul brood, though some of the chilled larvæ have the wet appearance below the capping seen in what is in America known as "pickled brood."

A. B. (Hitchin).—Some few of the dead larvæ in comb are yellowish, or buff colour, but the bulk of the unsealed brood is quite black, while still preserving its normal plumpness and crescent shape. This clearly indicates chilled brood, and as such we should keep on with the usual preventives, and trust to good weather for warding off further mischief, even if there be a trace of incipient foul brood in the comb. We say this because we can see by the comb sent and your treatment that the "twenty-stock apiary" is in the hands of a painstaking and careful bee-keeper.

P. M. (Devon).—We see no reason for treating the bees in such drastic fashion as was followed last year, because it is quite certain that the present trouble is not caused by foul brood (*Bacillus alvei*). The larvæ in capped cells are nearly all healthy-looking, and in those turning yellowish in colour there is none of the sticky ropiness seen in foul brood. We should trust to good weather and honey income for overcoming the present trouble, while not neglecting the use of preventives as before.

A BEGINNER (King's Lynn).—Comb sent is affected with foul brood, and we can add nothing to the advice given in the new edition of "Guide Book" for dealing with it.

W. OAKES (N. Wales).—Brood in comb is chilled only, not foul, and is no doubt due to the bad weather during the past three months. The bees will probably be all right in a week or two.

W. A. PHILLIPS (Truro).—We find no trace of any brood at all in any cells of No. 1, foul or otherwise; but the appearance of comb is suspicious, and, in any case, combs like sample are not fit for use by any bee-keeper who cares for his bees. They are hardly worth melting down for wax, so old and black are they. If ours, we should promptly burn them out of sight. The sample marked No. 2 has dead larvæ affected in a bad way, but looking more like black brood than *B. alvei*. The above remarks apply to this comb also, and you will do well to burn the lot for the sake of your healthy stocks. The single frame put into a healthy hive may as well remain there as be taken away now.

SEVERN (Shrewsbury).—Comb shows a very bad case of foul brood, and we should hesitate about using the honey taken from such combs as bee-food, even after boiling and medicating. It cannot be of much value, and will be best burnt out of sight.

*** ***Some Letters, Queries, &c., are unavoidably held over till next week.***

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FOR SALE, a few Bar Frames and Skeps Bees, good condition, healthy; cheap; overstocked.—S. HARRIS, Aberfeldy. g 59

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SECTIONS WANTED FOR CASH, in any quantity, glazed.—Write, stating lowest price delivered and about when ready, to K 731, care of Shelley's, Gracechurch-street, E.C. g 69

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FOR SALE, three Observatory Queen-rearing Hives. Cash, or Swarms.—DAY, 61, Hill-street, Coventry. g 65

2 NEW FRAME HIVES, with lifts and supers, painted 3 coats. Approval; Deposit.—WARREN, JUN., Great Horwood, Winslow. g 64

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PURE ITALIAN VIRGIN QUEENS, 2s. each; also Virgins of prolific hybrid strain, 1s. each, with introducing cage.—P. DICKINSON, Floral Apiary, Portland-street, Southport. g 62

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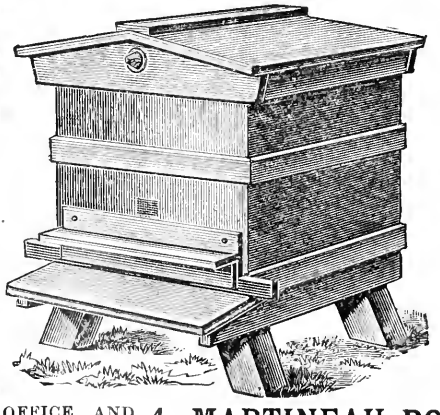

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AND BEE-KEEPERS' ADVISER.

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OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

REGISTERED FOR TRANSMISSION AS A NEWSPAPER.] [ENTERED AT STATIONERS' HALL.

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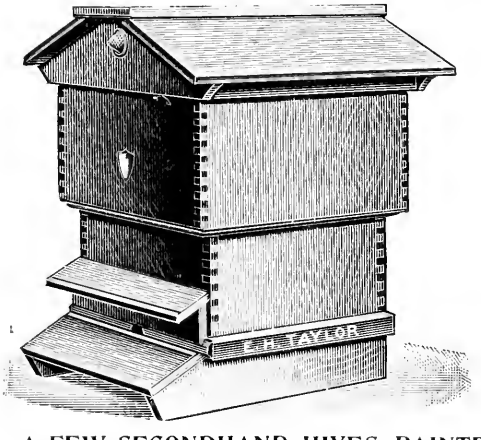

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THE

British Bee Journal

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Edited by T. W. COWAN, F.L.S., &c., and W. BROUGHTON CARR.

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Correspondence: Whom to Address.—All matters relating to the Literary Department, Associations, Shows, &c., should be addressed "Editors, *British Bee Journal*," and all business communications and matters relating to subscriptions and advertisements to be addressed to the "Manager," *B.B.J.* Office.

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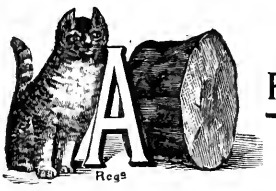
NEW  READY

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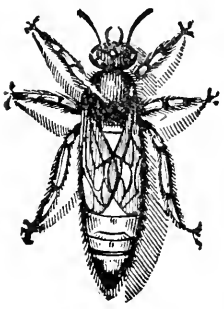

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Editorial, Notices, &c.

ORIGIN OF FORMIC ACID IN HONEY.

In 1883 a national exhibition of special interest was held in Zurich, inasmuch as in it were shown only Swiss products and manufactures.

In the agricultural department a section was devoted to bees and bee-keeping, and we spent much time investigating the various interesting things displayed. Amongst the scientific exhibits we specially noticed a unique collection shown by Dr. de Planta, representing seven years of arduous labour on his part, and to which we drew attention in the B.B.J. of December 1, 1883, page 267. Here could be seen in separate small bottles the several constituents of pollen and honey. One bottle contained hazel pollen, and thirteen similar bottles were shown, each one giving in proportion one of the thirteen constituents of this pollen. Nectar was also demonstrated in the same way. The different constituents of this were displayed in six bottles, and as we took especial interest in this exhibit, Dr. de Planta personally explained to us the enormous difficulty he had in getting a sufficient quantity of nectar. This he collected direct from the flowers by means of a pipette, and it was at once sealed up in tubes to prevent the formation of bacteria. It is not necessary to give details of the trouble and perseverance with which Dr. de Planta got sufficient glandular secretions or saliva for his experiments; but, having obtained them, he was able to show that they played an important part, and found that by means of this saliva various substances in the nectar were converted into others which only appeared in the honey. The constituents of honey were shown in a dozen bottles, and experiments had proved that honey undergoes a certain change in passing through the bee, and that glandular secretions play an important part in producing this change. On our questioning Dr. de Planta with regard to the proportion of formic acid in one of the bottles, he replied that Professor Erlenmayer and himself had first separated it in 1878, and he believed that it was a powerful preservative, having found that nectar which did not contain formic acid fermented very rapidly; hence his precaution in sealing the tubes as he collected it. Dr. de Planta was also the first to prove by analysis that honey contained formic acid, and published his discovery in the *Schweitzerische Bienenzeitung* for 1879, page 29, but not until much later was he able to demonstrate its origin. At a meeting of the Société Helvétique des Sciences Naturelles, held in Berne that year, Dr. de Planta said:—"There in the stomach of the bee is found the apparatus for concentrating the sweet liquid, the nectar, by diffusion of the water through the membranes of the stomach, and its expulsion by means of the numerous tubes of the urinary apparatus. There also must be found the formic acid at the moment when honey, once prepared, remounts by the mouth to be stored in the cells. The nectar we have found does not contain formic acid" (*Schweitzersche Bienenzeitung*, 1879, page 29).

From the time of our first meeting Dr. de Planta in Zurich we kept up a correspondence until his death in 1895, and in some of his letters he alluded to the progress made in his researches, and expressed himself as confident that the origin of the acid would be found in the blood.

In 1884 Dr. Müllenhoff stated in the *Bienenzeitung* (page 61) :—"When the cell is nearly filled, and the honey is not intended for immediate consumption, bees add a drop of the secretion of their poison gland. After the addition of more wax, followed by the bending together of the rims of the cells, the latter become half closed; the cell is then filled up and finally closed by completing the cell cover all round."

Dr. Müllenhoff acknowledged Dr. de Planta's discovery, but adhered to his statement that the bee turned round and deposited the formic acid with her sting.

In 1885 the Rev. W. F. Clarke tried to improve on Müllenhoff's theory, for at the Detroit Convention of American bee-keepers in that year he stated that "for his own part he believed that the formic acid was added by the bees in the capping process, which was carried on mainly by their tails—the sting being the last polishing tool" (*American Bee Journal*, 1885, page 793). Mr. Clarke propounded his trowel theory in the same journal in 1886, page 549, and in that year he published a poem entitled "A Bird's Eye View of Bee-keeping," on page 60 of which we find the same thing stated.

It having been shown that honey contained formic acid, the question naturally arose in what manner the fluid was introduced. Did the nectar in flowers contain it; or did the stored honey absorb it from the air in the hive, containing so large a population giving off the poison, which became volatilised; or did it come from the sting?

Dr. Müllenhoff's theory did not satisfy so able a scientist as Schönfeld: he had seen bees finishing the capping of cells, but had never seen one turning round to deposit the acid with her sting. He therefore invited Dr. de Planta to make further experiments, and to furnish

scientific and irrefutable proof that the formic acid in the honey could only be derived, as the Doctor had stated, from the blood of the bee.

Dr. de Planta undertook the work, and in a series of articles published in the *Schweitzerische Bienenzeitung* in 1893 this indefatigable worker first refuted Müllenhoff's theory by proving that 100 grammes of sealed honey contained 0.0186 grammes of 22 per cent. formic acid. One hundred grammes are the contents of 165 worker-cells. By careful experiment, the details of which are too lengthy to go into here, he found that the minutest possible drop of poison from the sting contained at least 0.0254 grammes of formic acid, which would make 4.1910 grammes in 165 cells—that is to say, 200 times more than is actually found in them. Such a quantity of acid in the honey would make it quite unfit for consumption (page 186). Dr. de Planta then proved that the nectar of flowers gathered by bees does not contain formic acid, and that the air in the hive could only impart an infinitesimal quantity, which did not account for the amount found in honey (page 226). The practical work with the bees was carried out with the greatest care and skill by Schönfeld himself, while Dr. de Planta did the chemical analysis.

With indomitable patience Planta collected and analysed the blood of the bee, the contents of the honey-stomach, and the salivary glands, and in the end he arrived at the conclusion that the origin of the formic acid is in the blood of the animal (page 337). The blood which circulates in all parts of the body traverses also the salivary glands, and deposits, along with the ferments necessary for digestion, formic acid; these are directed towards the mouth, when every particle of nectar which passes to the honey-sac receives a portion of saliva impregnated with formic acid. This was proved to be the case, analysis of the contents of the honey-sac having clearly shown the presence of the acid, whereas not a trace of it was found in nectar.

It is impossible within the limits of our space to go into fuller details of all the work done by this distinguished man, whose loss was severely felt not only by scientists, but also by practical bee-keepers, for besides this question of formic acid he decided many others connected with the bee-keeping industry.

We are pleased to be able to comply with Colonel Walker's request on page 203, and to corroborate his statement with regard to Müllenhoff's theory. Cheshire, when he wrote the book referred to by the *Times* correspondent, did not know of Dr. de Planta's work. When the first part of "Bees and Bee-keeping" appeared there was an appreciative review of it (B.B.J., 1885, page 327), and it was then pointed out that since Langstroth's book much had been discovered, and there was also the work of such men as Cohn, Planta, Grassi, and others to chronicle. Mr. Cheshire wrote asking about these works, having a desire to become acquainted with them. The information was supplied, but he did not avail himself of it, as no mention of any of these writers was made. Probably it was because he did not know German, and for this reason also omitted to allude to Schönfeld's experiments in respect to formic acid, and misrepresents him with regard to his researches with foul brood. The Rev. W. F. Clarke's trowel theory, based on that of Müllenhoff, has always been regarded as a joke by scientists, and Maeterlinck is not an authority on bee-matters, however pleasantly, though romantically, he may have written about them.

We may therefore take it for granted as being proved, on the best authority, that formic acid found in honey is a secretion from the blood, and is introduced involuntarily, as similar secretions usually are.

CONGRESS OF BEE-KEEPERS.

The Congress Committee have now settled upon the programme for the Conference of Bee-keepers to be held at the Franco-British Exhibition on the 25th inst., subject to the approval of our French confrères. You have kindly promised to print this programme in your issue of the 18th inst., but if those of your readers who would like to have an early copy will send me a stamped addressed envelope, I shall be happy to forward one immediately they come from the printers. — J. B. Lamb, Hon. Secretary, 3, Maitland Park Road, London, N.W., June 6.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[7138.] I was glad to see Mr. Quayle's letter mentioning bees and buttercups (7126, page 214). My reference was to the late-flowering buttercups, which

bloom at end of May and early June. I have never yet seen a bee working on these flowers. During the past fortnight I have made many examinations at all hours of the day in a meadow at the back of my apiary—yellow with buttercups—yet never could see a single bee on the flowers, and in our district bee-forage has been very scarce during the whole time, so that if either pollen or honey had been procurable from the flowers it is certain that the bees would have found it out. I may add they are proved adepts at scenting-out a tin of syrup.

It is disheartening to hear that things apicultural are in such a bad way with our friends north of the Tweed, but this general backward condition of the majority of stocks in Scotland affords a very sound reason why our brethren in the craft who are fortunate enough to have strong stocks in good honey-producing districts should not sacrifice their crop at a lower price than last year. We shall probably not have half a crop, even though the weather be ever so good or the honey-harvest long lasting, for the simple reason that our bees are not numerous enough to gather it in, and by the time our weaklings have grown strong the supering-time of the year will have passed away.

There is a remarkable scarcity of swarms this year among the skeppist cottagers around here, who are usually before the modern bee-keeper with his frame-hives. I have a good number booked, but I fear I shall have to cancel some orders.

I am wondering how the big consignment of Australian honey is selling. It is too strongly flavoured with the eucalyptus to suit the Britisher's palate, unless they have cleared the forests of gum-trees and planted lucerne or white clover. If this is done they may get a chance for their honey in our market.

Queen-wasps. — These are unusually numerous this season. I have myself killed nearly a hundred altogether, some of them nearly a month ago. Since then, they are very late starting their nests. I killed three last evening in the roofs of hives in about the same position as those I destroyed a month ago.

The Wax-moth.—This pest is again in evidence with us, and unless great care is taken we shall—wherever the moth is prevalent—get them in the backward stocks. Twenty years ago I did not know the pest except from written descriptions. Now I am obliged to be ever on the alert to crush them and destroy the larvæ wherever found. The wasps, however, although every man's hand is against them, still exist, and if not mercilessly hunted down their ravages are soon seen. Even though store-combs are fumigated in the spring-time, we find that some eggs of the wax-moth have escaped our vigilance, and very soon it is ovipositing in every cranny or crevice containing honey-comb.—W. Woodley, Beedon, Newbury.

BEE-KEEPING IN MEXICO.

ABOUT ITS BEES AND ITS HONEY.

[7139.] I now beg to trouble you with a sample of bees and honey, and request the favour of your kindly informing me of the race to which these bees belong, trusting they may arrive in better condition than those I sent last year, which, in the B.B.J. of September 12, you stated arrived mouldy and appeared small. These I have packed up as nearly air-tight, by means of propolis, as may be. As regards size, I may state that in life they measure fully fifteen millimetres in length, and have three narrow yellow bands. Regarding the honey, on that I sent last year you reported very favourably, adding that it was "the thickest you had seen for some years." This I now send I think you will find still thicker, and herein consists my trouble. To extract the honey I cut out the combs from six frames, carefully pounding each comb in a shallow dish so that every cell is smashed. This mass I put into a conical strainer, 1 ft. 9 in. deep and 9 in. to 10 in. in diameter at the mouth, made of the stuff per sample herewith. With the thermometer (Fahr.) at 72 deg. at night and 85 deg. in the day, the honey continues draining for five days and nights, yielding 24 lb. to 25 lb. of honey as per sample. After taking the residue—elegantly called "slumgum" on this side of the sea—from the strainer, and placing it in a basin which is in a larger basin with water kept boiling, I extract the wax, which on cooling leaves 6 lb. of honey beneath it, so that one super yielded only 44¾ lb. of strained honey and 12¼ lb. after melting the residue in the manner stated. Altogether this thick honey takes too much time to deal with. It is strained into a basin having an open lip 2½ in. wide. From this I cannot pour the honey, but have to plaster it into a breakfast-cup from which, after turning bottom up, I rake the honey with a table-knife into a funnel to fill bottles; in fact, it more resembles jelly than honey.

Possibly the material through which I strain the honey is of too fine a mesh. I see "cheese-cloth" is recommended, but my profession of mining engineer has never led me to a knowledge of that material, and, on inquiry of those who make cheese, I find that almost anything is used.

In the B.B.J. of May 14 I did my

best to reply to the inquiry of Mr. J. Gray on page 76 of the B.B.J. re "the plan of working a stock of bees entirely on shallow-frames, allowing two sets in lieu of orthodox brood-nest." If I remember correctly, I finished my letter by stating that I had just placed a "Porter" bee-escape below the upper super—there were two supers on the upper brood-nest—but found the bees would not leave. After posting my letter I found the bees could not leave on account of the escape being choked with drones. After clearing these out, the bees left, and from this super I have obtained, as above stated, 57 lb. of honey, and in addition twenty well-filled 4¼ in. by 4¼ in. sections, leaving on the under super about two-thirds to three-quarters full of honey.

Please favour me with your valued opinion on the following:—1. To what race do the bees sent belong? 2. What is your opinion of honey sent, and will an extractor throw it out of the combs? 3. Is material, as per sample enclosed, of too fine a mesh, and, if so, what other can I use in order to strain the honey properly?

I beg to anticipate my best thanks for your kind reply, and request you to pardon all mistakes in this hurried letter. The fact is I am entirely alone in the house, not a servant to be had, as about 80 per cent. of the population are sick with influenza or fevers. With kind regards—FRANK W. BREACH, Chinipas, Chihuahua, Mexico, April 30.

P.S.—As the packet of honey and bees will go by way of Vera Cruz it cannot arrive as quickly as this letter.—F. W. B.

[We fear the package sent by parcels post has miscarried, seeing that it is now long overdue. We also have your subsequent letter dated May 17, which reached us on June 9, and will appear in next week's issue, and if the honey and bees arrive before then we will deal with the whole matter. Meantime, it might be well to send particulars of where and how the package was despatched "by parcels post," so that if not received within the next few days we may know where to make inquiries with regard to the missing parcel.—EDS.]

THE ISLE OF WIGHT BEE-DISEASE.

[7140.] With regard to the "Isle of Wight bee-disease," may I ask if any systematic inquiries have been made about the spraying of fruit-trees with insecticides? This matter seems to me of extreme importance towards elucidating the nature of the malady. Even if the result of investigations should be that poisons applied to blossoms are not the cause of the trouble to bee-masters in the island, the inquiries on the point will have been worth while. Then, am I mistaken in thinking that, where the disease has occurred in England, it has been in districts where fruit-growing is extensively carried on? If so, *cela donne à penser*, as our French friends say.—W. H. HARRIS, Hayes End, Middlesex.

[It will, we think, probably be found that what is known as the Isle of Wight disease has been credited with being the cause of bee-losses in the past winter which have arisen from causes quite distinct from anything in the nature of an epidemic, but simply as the outcome of a very adverse season in 1907 and a still worse spring this year.—EDS.]

THE SEASON IN GLOUCESTERSHIRE.

[7141.] I am acquainted with over ninety bee-keepers in this district of the county, and I hear that quite 33 per cent. of their stocks have perished from starvation, queenlessness, and dwindling. If other districts are having similar luck, I am wondering where the 900 swarms now being advertised for in the B.B.J. will come from! When stocks go into winter quarters well covered up, with abundance of stores, a young queen, brood, and eggs, it is puzzling and disheartening, on examining them the following May, to find neither queen nor brood, and perhaps a torn-open queen-cell! I know many cases like this. It is curious that bees should choose the very early spring to depose a fertile young queen and attempt to rear another. I notice that Simmins, in his "Modern Bee-Farm," allows 25 per cent. for winter casualties, and I think this estimate is about right, because I find that skeppists usually lose one stock out of every four wintered, from one cause or another.

The tendency amongst frame-hive owners is, if they see sealed honey at the tops of the frames, to take it for granted that their bees have sufficient stores to winter on. They are oblivious of the fact that the sealed honey may not go beyond an inch deep. The stock therefore lingers well into the spring and then dies of starvation. Every stock should be examined in early autumn to ascertain the condition of the stores and of the queen; but I find many bee-keepers do not do so, hence the result.

Then with regard to the expert failing to detect foul brood, it is quite possible he may do this if short-sighted, because cells containing foul brood are frequently sealed up entirely, and the contents can only be judged by the dead appearance of the cappings—not necessarily perforated—or by smell. Name sent for reference.—EXPERT, Cheltenham, June 6.

(*Correspondence continued on page* 236.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

We commend to the notice of artisans and cottagers living in the country our friend Mr. Rouse's advice with regard to keeping a few hives of bees, even if unable to do so with much profit. It is well worth doing so—as he says—for the delight of getting a bit of wholesome honey on their bread, and so saving the wife's outlay for butter or jam. His bee-experiences are altogether useful, and need no addition from us. He says:—

"In reply to your request for a few of my 'bee-experiences' to accompany the photo of my apiary, I may truly say that my experience with bees has been of the progressive order, as I certainly began very low down when my father gave me a stock of bees in a straw skep. This I had to take with me by train to Worcester, where I was going to stay for the night. On arrival at the station I took my skep of bees (which were standing open side downwards in a cheese-box) to the cloak-room to leave till next morning; but no sooner had I mentioned the fact that they were bees than the porter in charge pushed them back across the counter, saying he could not have live bees there! So I had to carry them down town and back again next morning to the station. However, I got them at last to my destination, and in due course proceeded to lift the bees out of the cheese-box, when all the combs dropped out of the skep; but I happened to have a lot of bicycle spokes by me at the time, and I stuck them in through the straw and combs all round the skep, and in this way succeeded in getting the bees and hive on to a stand. This was my first experience in bee-keeping, so you will see I began at the bottom rung of the ladder. Since then, however, I have made great strides, having considerably shot ahead of my neighbour, who used to give me a few hints in bee-management, which at the time I thought were wonderful. Being a blacksmith by trade, and not overburdened with capital, I realised that in order to get as many hives as would set up a decent sized apiary I must make them myself, and I shall never forget my first attempt at hive-making. I got a square box, and nailed on at the corners four round solid ash legs, after which I made frames to fit the box, and shall not soon forget what a stiff job it was to put in the saw-cut in top-bars. In fact, I gave up floundering on the wrong tack, and raised enough cash to buy a properly-made frame-hive as a pattern to work by, and that hive was my salvation. From it I have made about thirty hives, improving as I went along, until to-day I consider my hives as good as any that can be bought.

MR. THOMAS ROUSE'S APIARY, ROCHFORD, TENBURY, WORCESTERSHIRE.

"I used to increase my stock by 'driving' condemned bees for skeppist bee-keepers. Many of these were glad to let me have the bees instead of killing them. I do not think I have bought more than three stocks of bees during my whole ten years' bee-keeping. Last autumn I had in all thirty-five stocks, but it took so much sugar to carry them through the bad season and the severe winter that I have had to sell a good few stocks this spring in order to make up enough money to buy a cow, as I am a great believer in the new scheme of 'Small Holdings' and am going

to experiment with a few acres. Fortunately for myself, I have never yet had foul brood among my bees, and hope to be able to keep it at bay. I have gained a great amount of experience in looking after other people's bees and am also local expert for the Worcester B.K.A. I often think what a good thing it was I took to bee-keeping as my hobby, for I can truly say it has been a profitable one, and has enabled the family and myself to enjoy many home-comforts beyond the 'bread and honey' of our forefathers which we might otherwise have been short of. I once heard Canon Coventry say that cottagers did not seem to go in for bee-keeping as they used to in bygone times, and I think myself it is a great pity that every cottager located in the country does not keep a hive or two, for I know there are plenty of children who would delight to get a bit of wholesome honey on their bread. I will conclude my few remarks by saying that the native brown bees are a good old sort, and can do as good work as any of the more handsome foreigners. As you know, sirs, many of us always want something new or what we haven't got, but I for one am content with my bees, and hope all may have a good season after the bad one of 1907."

(*Correspondence continued from page* 234.)

BEES AND BUTTERCUPS.

[7142.] Referring to this matter, may I be allowed to say the bulbous crowsfoot certainly yields pollen in great profusion of a handless cup or bowl shape, and if any of those interested in the subject will carefully separate the petals from the calyx they will be able to see with the naked eye, but of course better still with a pocket-lens, the nectary at the base of each petal on the inside. Like others of your correspondents, I have not found bees giving very much attention to the flower named above, probably for the same reason that animals avoid them, viz., their very acrid taste.—Geo. Hayes, Beeston, Notts, June 8.

ISLE OF WIGHT BEE-FUND.

In addition to the subscriptions announced on page 192 (B.B.J., May 14), I have received the following sums for the Isle of Wight Bee-Fund:—

	£	s.	d.
Irish Bee Journal	2	2	0
Hants and I.O.W. B.K.A.	2	2	0
F. D. Hill	0	15	0
C. Smith	0	3	0

H. J. O. Walker (Lieut.-Col.), Treasurer, Lee Ford, Budleigh Salterton.

HONEY AND ITS ADULTERANTS.

Honey is one of the most variable of food materials. When pure it is derived solely from the sweet fluid collected from the nectaries of flowers and further elaborated by the honey-bee. But bees often fill their cells with other substances than the nectar of flowers, as molasses, honey-dew, or the juices of fruits; indeed, they almost always gather varying amounts of the exudations of plants other than nectar. Chemically considered, the ideal honey is a concentrated solution of invert sugar—*i.e.*, of dextrose and lævulose in equal proportions, with traces of formic acid, nitrogenous bodies, dextrin, and other organic substances. Owing to the presence of impurities so generally introduced by the bees, much difficulty is found in attempting to set up a suitable standard of purity for honey as found in commerce. The difficulty is increased by the common practice of artificially feeding bees and by the addition of adulterants. The historical and literary associations of honey and its value as a food and a medicine lend interest to an important investigation into its composition and analysis that has recently been undertaken by Mr. C. A. Browne and Mr. W. J. Young, of the United States Department of Agriculture. At the present time the chief adulterants of honey are cane sugar, starch syrup or commercial glucose, and invert sugar. It is interesting to note that bees readily feed upon cane sugar, but they often refuse to take glucose syrup. The latter adulterant is added to natural honey for the double purpose of cheapening the product and preventing crystallisation. The nectar of flowers contains from 70 to 80 per cent. of water, but honey contains only about 20 per cent. The reduction is effected partly by the bees exposing the nectar in thin layers to the action of a current of air produced by the fanning of their wings and partly by a process of regurgitation, the nectar being continually thrown out from the honey-sac on the partially doubled tongue and then drawn in again until, by the movement of the air and the heat of the hive, the nectar is sufficiently concentrated to be deposited in the cells of the comb. Another change of considerable importance, which takes place while the nectar is in the honey-sac of the bee, and also probably during evaporation and storage in the comb, is the conversion of over 85 per cent. of the sucrose originally present in the nectar through the action of an enzyme secreted by the bee. The nectar is further modified by the bee by the introduction of a minute quantity of formic acid which is not present in the original nectar. This acid is supposed to act as a preservative and to prevent fermentation. The Bulletin deals very fully with the chemical investigation of honey,

and concludes with an interesting chapter on the microscopical examination of honey. It is shown that the genuineness or otherwise of a sample of honey may be indicated by the number of pollen grains present. By counting the number of pollen grains present it is possible to ascertain approximately the amount of glucose or other adulterant that may have been added. A careful study of the size, shape, and markings of the pollen grains of different flowers enables the analyst to determine the genus, and frequently the species, of the flowers from which the honey was collected. In this way the statements on the label regarding the source of a given sample of honey —*e.g.*, "heather honey"—can be verified. —*The Lancet.*

WEATHER REPORT.

WESTBOURNE, SUSSEX.
May, 1908.

Rainfall, 1·80 in.	Minimum on grass, 31° on 23rd.
Heaviest fall, ·51 in. on 14th.	Frosty nights, 0.
Rain fell on 16 days.	Mean maximum, 61·5.
Below average, ·14 in.	Mean minimum, 46·9.
Sunshine, 221·7 hours.	Mean temperature, 54·2.
Brightest days, 27th & 28th, 12·9 hours.	Above average, 3.
Sunless days, 1.	Maximum barometer, 30·471 on 18th.
Below average, 10·5 hours.	Minimum barometer, 29·394 on 6th.
Maximum temperature, 73° on 31st.	L. B. BIRKETT.
Minimum temperature, 37° on 24th.	

MAY RAINFALL.

Total fall, 2.18 in.
Heaviest fall in 24 hours, .68 in. on 5th.
Rain fell on 18 days.
W. HEAD, Brilley, Herefordshire.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 30 to July 4, at Newcastle (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. **Entries closed.**

July 16 and 17, at Sleaford.—Show of Honey, Hives, and Bee-Appliances in connection with the Lincs Agricultural Society. Bee-Department under management of the Lincs B.K.A. Fourteen classes. Liberal money prizes and silver medals. Schedules from R. Godson, Hon. Sec., Lincs B.K.A., Tothill, Alford, Lincs. **Entries close June 12.**

July 22 and 23, at Burslem.—Annual Show of the Staffs B.K.A., in conjunction with the Staffs Agricultural Society. Liberal prizes. Five open classes, including one for single 1-lb. Section and single 1-lb. Jar. Schedules from Joseph Tinsley, Chebsey, near Stafford. **Entries close June 20.**

July 22 and 23, at Cardiff.—Annual Show of the Glamorgan B.K.A., in connection with the Cardiff and County Horticultural Society. Members', Novices', and Open Classes. Substantial money prizes. Schedules from W. Wiltshire, Assist. Hon. Sec., Maindy Schools, Cardiff. **Entries close July 16.**

July 30, 31, and August 1 and 3, at Manchester.—Annual Show of the Royal Lancashire Agricultural Society. Liberal money-prizes are offered for honey along with silver and bronze medals of the B.K.A. and also of the Society. Open classes for Honey-Trophy, Sections, Extracted Honey, Beeswax, Honey-Confectionery, Bee-Flowers, Instructive Exhibits in Bee-Culture, &c. Schedules from Edward Bohane, Secretary, Miller Arcade, Preston. **Entries finally close June 27.**

August 5 to 7, at Halifax.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. Schedules and form of entry from John Maughan, Secretary, Blake Street, York. **Entries close June 27.**

August 12, at Wye (Kent Honey Show).—Five Open Classes: Trophy, cup value £3 3s. (entry 1s.), 1 lb. Section, 1 lb. Light Run, 1 lb. Dark Run, 20s., 10s., 5s. in each case (entry free); Beginner's Outfit, to retail 30s. (entry free). Fifteen Classes open to Kent: Two Challenge Cups, value £6 6s., and money prizes for 6 1-lb. Sections and 6 1-lb. Jars Extracted Honey. Money prizes for 6 Jars Light, 6 Jars Medium, 6 Jars Dark Extracted Honey, 2 Shallow or Standard Frames, 3 Sections and 3 Jars, 1 Jar Granulated, Beeswax, Mead, Candy, Cake Sweetened with Honey, Display of Cut Flowers, &c.; two Special Classes for Cottagers. Schedules of J. Tippen, Secretary, Wye, Kent. **Entries Close August 5.**

August 12 and 13, in The Park, Taunton.—Somerset B.K.A. Annual Show, in conjunction with that of the Taunton Deane Horticultural Society. Increased Prizes. Sixteen classes, including eight open and two free. Schedules from L. E. Snelgrove, Hon. Sec., Cromla, Locking Road, Weston-super-Mare. **Entries close August 7.**

August 19 and 20, at Shrewsbury.—Annual Show of the Shropshire Bee-keepers' Association will be held in the Quarry, Shrewsbury, in connection with the Shropshire Horticultural Society's Great Floral Fête. Eight Open Classes for Honey. Free Entry for Single Bottle and Single Section. Schedules from S. Cartwright, Hon. Secretary, Shawbury, Shrewsbury. **Entries close August 7.**

PRESS CUTTINGS.

THE "DAILY MIRROR" BEES AT WORK.

The two colonies of bees that were installed in hives on the roof of the *Daily Mirror* offices on May 15 have settled down quite peaceably to their new surroundings.

During the past days of sunshine the insects have been very busy. They seem to have discovered feeding-grounds to the west of Whitefriars Street, for it is in that direction that they fly principally on leaving the hives.

A more detailed report of the working of the *Daily Mirror* bees will soon be available. Messrs. Abbott Brothers, of Southall, the bee-specialists, who are superintending the *Daily Mirror's* experiment of bee-keeping in the City of London, have arranged to send experts to visit all open spaces, public gardens, and like places in London, to report in which

quarters the bees are found and where they are most busy.

Messrs. Abbott will also keep a scientific record of the progress of the experiment, which will be of the greatest interest and use to scientists and others interested in apiculture.

One effect that the introduction of a large number of bees into the heart of the City will have is to benefit the plant-life of the surrounding parks and gardens.

The bee is a most active fertiliser of plants and trees, and many a lonely fruit tree that still struggles on in a central London garden, a relic of the days when the City merchant lived in luxury near his place of business, might produce fruit yearly were there any bees about to fertilise the blossoms.

The secretary of the Royal Botanic Society, seen at the Botanic Gardens by the *Daily Mirror* recently, said that the fruit trees that exist in those gardens, although they receive every attention, bear little or no fruit, though they blossom in profusion.

This fact he attributed entirely to the lack of bees.

He also said that he felt sure that the presence of a large number of bees in the City would have a beneficial effect upon parks and gardens of the neighbourhood.

The secretary also said that he believed that bees had a far greater effect upon plant-life than was popularly believed.

"The harm done to fruit trees in a cold spring that is often attributed to frost or cold," he added, "is, I believe, far more often the result of the cold on the bees, which will not fly abroad on dull and chilly days, and consequently the fertilisation of the trees is retarded."

During a walk through the Botanic Gardens the *Daily Mirror* representative noticed a large number of honey-bees at work on the flowers, though whether these were workers from the *Daily Mirror* hives only an expert could tell.

It is significant, however, that so many honey-bees should be there, for the secretary of the society had previously mentioned that the bees chiefly seen about the grounds were of the humble-bee kind.

One thing is certain, nevertheless—that is, that the plants and trees within a three-mile radius of the *Daily Mirror* offices will benefit this summer from the *Daily Mirror* bees, and will seed much more freely.—*Daily Mirror.*

EARLY SWARMING IN SCOTLAND.

Two hives of bees belonging to Mr. John Carswell, Dalbeattie, swarmed on Thursday, May 28, the earliest date for many years in that district.—*Glasgow Daily Mail.*

Queries and Replies.

[3721.] *Giving Surplus Room.*—Last autumn I united two lots of driven bees on "wide-spaced" shallow-frames, and wintered them successfully on candy. In early spring I reduced them to ordinary spacing, and they are now working as vigorously as I could wish them, covering five frames. Should I let them continue working in the shallow-frames until they are crowded on the full number; or would it be best without delay to place a body-box under them of ordinary standard frames, and let them work down? I am anxious to do the best I possibly can with them, and shall be glad to avail myself of your valuable advice concerning them. I send name for reference.—STANDARD, Birmingham, May 27.

REPLY.—By all means give them a body-box of standard frames—fitted with full sheets of foundation—without delay. Set it below the shallow-frames (without excluder between, of course), and when the bees have transferred the brood-nest below they will use the shallow-frames for surplus.

[3722.] *Uniting Weak Stocks to Strong Ones.*—Will you kindly examine the enclosed piece of comb, and tell me what it indicates? It was taken from a weak and, apparently, queenless stock on May 31, the bees of which were shaken from the combs on to the ground, and combs and hive then taken away, so that their only chance of a home was to join forces with a stronger stock in a hive which stood within 2 ft. of their own, and after some excitement and the slaughter of about a dozen bees they seem to have attained their end, and the two lots have become reconciled.—A. H. C., Cheltenham, June 3.

REPLY.—Luckily for yourself there is no foul brood in comb sent, therefore no harm will follow the forced uniting of the homeless bees to the other stock. The dead larvæ in comb seem to be affected with black brood, not foul brood.

[3723.] *Preventing Swarming.*—1. Would it not be a good plan of preventing swarming to destroy the queen-cells before coming to maturity, and perhaps before the drones are hatched? 2. What is a "bee-line"? As a beginner I have been watching my bees, and nothing more unlike the supposed straight bee-line can well be imagined. The "bee-line," indeed, must surely be an imaginary one, something like the very crooked street called "Straight" in ancient Damascus, because it was not quite so crooked as a corkscrew.—J. MACGREGOR (Lieut.-Colonel), Ardgay, N.B.

REPLY.—1. Swarms may be prevented by the plan mentioned, but it is altogether too troublesome for general use, seeing that it involves upsetting supered hives crowded with bees, interrupting the colony at its busiest time, and risking loss or damage to queens and other mischief. The best method is giving room in advance, and dealing with the colony as directed in the "Guide Book," chap. vi. 2. A "bee-line" is generally understood to indicate the straight line for home a bee is supposed to take after filling its honey-sac. It is analogous to saying "as the crow flies," which means that, being high up in the air, the bird is not interrupted in its flight by any such obstacles as are met with lower down.

[3724.] *A Bundle of Queries.*—Will you please answer the following queries? 1. Is there a reliable foundation that does not require wiring? 2. What sections are best, split or otherwise? 3. What frames are best, shallow or standard? 4. Which bees do you recommend all round as workers, for temper, and for wintering? 5. Is Berkshire a good county for bee-keeping? 6. How many "W. B. C." hives could a man keep going

with all necessary work required, with five hours per day allowed, if a fairly intelligent man?—W. H. S., Barnet, Herts.

REPLY.—1. Several makers advertise thick brood-foundation (about six sheets to 1 lb.) that needs no wiring. If used with care, there is very little risk in using this unwired, as bee-keepers of the older school have proved in the past. But nowadays the rule is to use lighter foundation ("Weed" for preference), for economy's sake, and "wire it." 2. This is simply a matter of preference, and opinions differ on the point among able bee-keepers. 3. We prefer "standards" for brood-chambers and shallow-frames for surplus storing. 4. Our own choice is a good strain of natives, but some of the foreign varieties are splendid workers and breeders, if pure and of good strain. Hybrids are often excellent workers, but rather inclined to be vicious in temperament. 5. Yes. 6. A definite reply cannot be given to this question. There are many weeks in the busy season when five hours would not suffice for attending to a comparatively small apiary; while at other times there may be months when the largest apiaries need no attention at all.

[3725.] *First or Second Swarms—Which?*—On May 31 one of my hives swarmed, and I hived the swarm on seven drawn-out combs, and put it on a stand. On June 2 I intended to break up parent stock into "nuclei," but found on examining it the stock quite strong, very little brood (none under a week old), and two queen-cells, from which the occupants had hatched out. I then examined the swarm, and found queen had not started to lay. Can you kindly tell me probable solution? I do not think it was a second swarm. Thanking you in anticipation.—H. E. LEYLAND, Cumberland, June 2.

REPLY.—Judging from the particulars given, it seems about certain that it was a second swarm; in no other way can the condition of swarm and parent stock be accounted for.

[3726.] *Horse-chestnuts and Laburnums for Bee-forage.*—I am obtaining an eight-framed stock of bees, which I intend hiving with two frames of foundation, and ask:—1. When the foundation is drawn out, would it be harmful to place one of the frames of empty comb in the middle of brood-nest to spread brood? 2. Do horse-chestnuts and laburnums constitute good bee-forage? Thanking you in anticipation for your kind advice, and the information I have already acquired from your interesting journal.—H. G. CEILEY, Fortis Green, N., June 5.

REPLY.—1. No harm will follow if there are bees enough in the hive to completely cover six or seven frames. 2. Neither the horse-chestnut nor the laburnum is included among bee-forage trees.

[3727.] *Hiving Swarms.*—I should be glad of a reply to the following question:—On June 3 one of my stocks sent out a swarm which I hived in a skep, and left in till nightfall. As I did not wish for any more stocks, I put the swarm back, intending to catch the queen as the bees ran into the hive, but am sorry to say I did not succeed, and I think she must have escaped my eye whilst they ran up the board. The hive had a rack of sections on at the time. My question therefore is:—Ought I to have examined the frames and cut out the queen-cells after I missed the queen, or would it have been right to have left it alone? An answer in the B.B.J. would greatly oblige.—A. CROSSLEY, Kendal, June 8.

REPLY.—No, there was no need to trouble about cutting out queen-cells under the circumstances. The queen has evidently slipped into the hive unseen along with the bees, and will now be all right. If, however, the queen should by any chance not have gone in, there will still be a queen in the hive to head the stock.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

E. B. S. (Devon). — *Queen Cast Out.* — The dead queen, which has the appearance of a hybrid Carniolan, affords no evidence whatever either as regards disease or the cause of death. She has apparently been "balled" by the bees for some reason. Has the hive been disturbed much by having the combs examined since the queen was first introduced? If so, this may account for the "balling." We should say there is no valid reason for suspecting disease.

C. B. C. (Plymouth).—*Keeping Bees in Towns.*—We think you would be wise in locating your single stock of bees at home rather than trusting them at a place some distance away, where you "could only visit them once a week." Bees kept under such conditions must inevitably lead to trouble, unless you could have them seen to at times by someone near by.

LLOYD (Anglesey).—*B.B.K.A. Experts' Certificates.*—If your association is affiliated to the parent body in London, application should be made by the secretary on your behalf to Mr. E. H. Young, Secretary B.B.K.A., 12, Hanover Square, London, who will furnish all particulars for candidates desirous of undergoing the examination for expert's certificate.

F. TURNER (Gloucestershire).—*Keeping Bees near to Neighbours.*—If your neighbour can prove that he is unable to work in his garden because of your bees, and that they are a nuisance and danger to him, he would have good ground for an action for damage. The question arises, Is the danger real or only fancied? and it can only be decided by the judge who hears the case.

ELAS (Sale).—*Sending Queens by Post.*—To an experienced hand picking a queen from a comb and caging her is a simple matter, and is described on page 137 of "Guide Book," with photo from life; but for a novice at such work it is safer to take the comb on which the queen is into a bee-house or room, so that if she takes wing she may not fly off and be lost. The cage is first supplied with food, the attendant bees got into it, and then the queen is seized gently by the wings or thorax, and slipped into the space left open by partly withdrawing the slide. Great care is needed not to injure the queen when shutting the slide. If the queen takes wing she will fly to the window and be easily caught.

C. B. HEADLEY (Leicester). — *Bees and Spraying Fruit Trees.*—Without personal knowledge, we do not think any harm to bees would follow spraying apple-trees in bloom with quassia and soft-soap, as the bees would shun the mixture as obnoxious to them.

F. C. H. (Welshpool).—*Improving Colour of Wax.*—1. If you have used the "Gerster" extractor mentioned in the "Guide Book" without a better result than sample, it shows that the combs before melting have been overloaded with pollen, and, in consequence, the colour is difficult to improve. 2. The fact of frames being joined together by brace-combs at bottom edges shows that the frames do not hang true, a fault very difficult to overcome with built-out combs. In your case we should remove the brace-comb,

and drive a nail in lower edge of the side-bar to keep the frames ⅜ in. apart.

W. Gibb (Brighton).—*Using Drone-comb.*—If the frame of comb you were told by the expert "to remove from the hive when supering" contains drone-cells only, we should melt it down for wax as being worse than useless in the brood-chamber.

Miss H. S. H. (Tunbridge Wells).—*Bees Refusing to Enter Supers.*—There must be some reason for bees of a strong stock swarming on May 27 without having even entered supers, put on over three weeks before. Nothing short of an inspection of the hive and super would enable us to account for what happened. Can you not get some bee-keeper near at hand to explain it?

R. M. Gadd (Catford, S.E.).—*Flowers for Bees—Kent B.K.A.*—1. The list you refer to can only be had from Messrs. Sutton and Co., seed growers, Reading. 2. Write to the Rev. H. R. N. Ellison, Hon. Secretary, Kent B.K.A., Hothfield Rectory, Ashford. 3. It is not uncommon for birds to build their nests, as stated, on the top of the warm quilts above brood-chambers of hives. A photo of such appeared in our pages some years ago, but it does not make a good subject for reproduction by the half-tone process.

A Welsh Drone (Montgomery).—*Immature Drones Cast Out.*—1. It is a common occurrence for immature bees (both drones and workers) to be cast out when weather is adverse in spring. 2. The bee seen carrying pollen into a hole in the ground is not a hive-bee at all. It would belong to the Andrena species of wild bees, which deposit a single egg in a cell formed of clay or mud, and supply the necessary food on which the larva feeds in the process of development. 3. If frames are spaced beyond the proper distance apart and thick combs result, they must be pared down to the proper thickness before brood can be reared in them.

C. E. (Norfolk).—*Supering Stocks.*—We should not hesitate to super all stocks full enough of bees to warrant giving surplus-room, in view of the fine weather now prevailing.

Suspected Combs.

R. Jackson (Bentham).—Brood in comb seems to have died from the effects of the unusually bad season last year and adverse weather this spring. The combs should not be used again, but got rid of by burning, being too old and black for melting down for wax.

R. B. (Dundrum).—We fear you have not taken into account the extreme variableness of the present year in venturing to make an artificial swarm so long ago as to have brood occupying new comb in so advanced a stage as seen in sample of comb. The dead larvæ are not affected with foul brood, the appearance denoting it as "black brood"; but it would probably have hatched out all right had the weather been "according to 'Guide Book,'" when giving directions about making artificial swarms. As a matter of fact, we had no such weather as is needful for success at the time your swarm must have been made. The bees had better be left as they now are, and it may be that the improved conditions now prevailing will effect a cure.

One in Doubt (Pickering).—There is no foul brood in sample, the dead larvæ being altogether free from ropiness. It somewhat resembles black brood, but is not clearly defined. Use preventives as directed in "Guide Book" if the bees are fairly strong in number, and hope that good weather will do the rest in bringing them round.

Kent Cottager (Cranbrook).—The two hives from which the combs sent were cut are badly affected with foul brood, and should be promptly removed and burnt. Even if the bees are now "storing honey in one of them," as stated, the bees will never do any real good till the diseased combs are got rid of, to say nothing of the risk to your other hives, now strong and storing honey fast.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

NATURAL SWARMS, English Bees, hardy and prolific, 12s. 6d., 15s., and 18s.; packages to be returned; guaranteed healthy.—WHITING, Valley Apiaries, Hundon, Clare, Suffolk. g 84

DON'T MISS THIS.—Having more bedding plants than I can find room for, rather than destroy I will send 200 plants, in about 10 varieties, including Asters, Petunias, Marigolds, Stocks, Balsams, &c., for 1s. 6d., carriage paid.—S. G. LEIGH, Broughton, Hants. g 85

FOR SALE.—3 healthy Stocks for sale, on 10, 10, and 8 Frames, in well-made Hives, 1 Supered; have not swarmed. Great sacrince, £4 2s. 6d. the 3, owner going abroad. — M. NEARY, 56, Cedars-avenue, Walthamstow, Essex. g 82

WANTED, at once, healthy pure Carniolan Swarm. State price.—DAVIDSON, Gleniher, Gourock, N.B. g 83

1907 QUEENS, Woodley's strain 4s., guaranteed safe arrival, in introducing cages. —TOLLINGTON, Woodbine Apiary, Hathern. g 81

WANTED, 2 Swarms, about 4 lb.—Apply, JAMES McCURRACH, Dry Bridge, Buckie, N.B. g 79

AM OPEN TO PURCHASE any quantity of Honey.—Full particulars, DALTRY, Latimer-street, Oldham. g 78

QUEENS.—"Doolittle" strain again to the front. Virgins, 1s. 6d.; Fertiles (in a few days), 5s. Customer writes: "Your queen again heads my strongest colony."—D. TAYLOR, Iminster. g 77

SWARMS, 2s. 3d. lb., on rail March; empties returnable.—PEPPER, Guide Post, March. g 80

GRAY'S SHOW JAR, fine sample of white flint glass, fulfilling all requirements of the Show Bench, 3s. dozen, free on rail; sample, 6d., post free.—THE WHITE APIARY, Long Eaton. e 84

PROTECT YOUR FRUIT.—Tanned Garden Netting, only best quality supplied, 25 yds. by 8 yds., 50 yds. by 4 yds., and 100 yds. by 2 yds., 9s. each.—L. WREN AND SON, 139, High-street, Lowestoft. f 70

WANTED, 1,000 Bee-keepers to try my Cottage Hive, with Frames and Sections, painted, 9s. 6d.; genuine "W. B. C.," with Frames and Sections, 15s.; above Hives without Frames and Sections, 6s. 6d. and 13s.; Section Racks, 1s. 3d.; with Dividers (metal), 1s. 9d.—SOUTHERN BEE-HIVE WORKS, Hellingly, Sussex. e 85

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FOR SALE, 6 good Hives, guaranteed healthy, various makes, well painted, 5s. each, or 25s. lot; quantity Section Racks, 1s. each.—HEMMING BROS., Standlake, Witney. g 67

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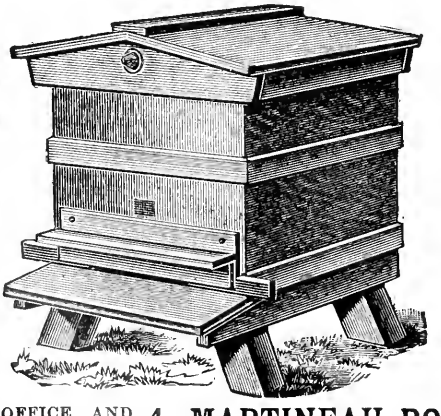

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EDITED BY T. W. COWAN, F.L.S., &C., AND W. BROUGHTON CARR.

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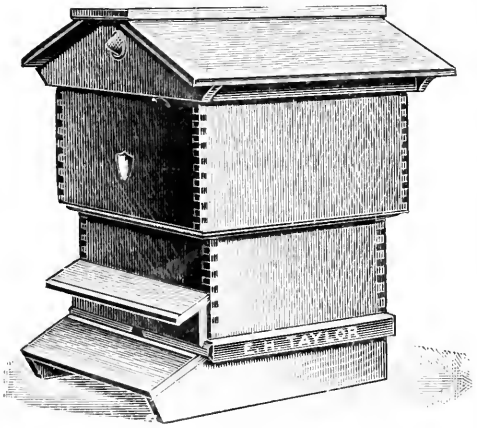

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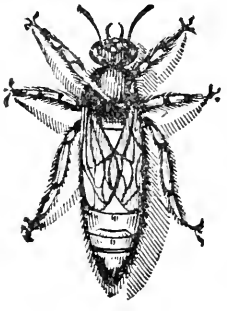

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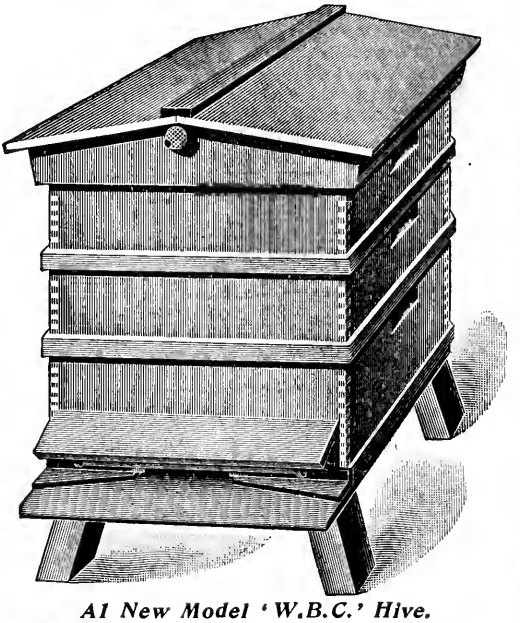

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Editorial, Notices, &c.

CONGRESS OF BEE-KEEPERS.

We invite the attention of our readers to the Congress of Bee-keepers to be held in the Congress Hall of the Franco-British Exhibition, London, on Thursday, the 25th inst. Full particulars of the proceedings are given below, and in view of the importance of the occasion we trust our French brethren in the craft will meet with a cordial welcome from a large and appreciative body of British bee-keepers, thus showing that on this side of the Channel we, equally with themselves, take an active interest in all that tends to promote the welfare of the bee-keeping industry. So many country visitors are now attending the Exhibition on account of its wonderful attractions that a little effort on the part of bee-keepers residing at a distance will enable them to fit in their visit with the date of meeting, and thus secure a representative gathering such as will do honour to the occasion and to all concerned.

BRITISH BEE-KEEPERS' ASSOCIATION

CONGRESS OF BEE-KEEPERS

At the Congress Hall of the Franco-British Exhibition, June 25, 1908.

The chair will be taken at 11 o'clock punctually by Lord Avebury, P.C., F.R.S., who will deliver an address of welcome.

There will be five subjects discussed at the Congress. The Committee regret that, owing to the amount of work to be done, they have been unable to allot longer than fifteen minutes for the introduction of each subject and for speeches by the representatives of British and French Possessions, and ten minutes for other speeches. Moreover, no one may speak more than once on the same subject, excepting on a point of order or by way of explanation.

There will be an interval of one hour for luncheon, from 1 to 2 o'clock.

A charge of 1s. will be made for admission to the Congress Hall.

Arrangements have been made for foreign visitors and members of the British Bee-keepers' Association to visit a well-equipped apiary on June 26. Those wishing to take part in this excursion should apply to Mr. Walter F. Reid, Chairman of the Congress Committee, Fieldside, Addlestone, Surrey.

PROGRAMME OF PROCEEDINGS.

First Subject, at 12 o'clock.

"The Development of Bee-keeping as an Industry." To be introduced by T. W. Cowan, Esq., F.L.S., F.G.S., Chairman of the British Bee-keepers' Association.

Second Subject, at 2 o'clock.

"The Influence of more than one Queen in the same Hive." Introduced by a French bee-keeper.

Third Subject, at 3 o'clock.

"On the Choice of a Hive." To be introduced by Walter F. Reid, Esq., F.I.C., F.C.S., Vice-Chairman of the British Bee-keepers' Association.

Fourth Subject, at 4 o'clock.

"Does the Size of the Hive Influence the Yield of Honey?" Introduced by a French bee-keeper.

Fifth Subject, at 5 o'clock.

"The Cure of Foul Brood." To be introduced by M. E. Sevalle, Secrétaire Général de la Société Centrale d'Apiculture, Paris.

As far as is practicable, the subjects for discussion will be introduced at the hours named.

An interpreter will be in attendance.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

****** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.***

AMONG THE BEES.

IS THE THEORY UNTENABLE?

[7143.] "It is contended by most bee-keepers, though I do not myself hold this view, that all cells are built circular at first, and only become hexagonal as the result of mutual pressure, in the same way as bottled peas become hexagonal." This sentence was written by Dr. Thomas S. Elliot in an article on "The Scientific Side of Apiculture," page 69 of May *Re-*

cord. The writer's disagreement with the theory enunciated has my hearty support, but I am rather surprised to find him assert that "most bee-keepers" put any faith in so questionable a doctrine. I do remember that the famous Buffon held forth in favour of such a theory, but I always understood his arguments had been pulverised and ground down to nothingness. Buffon was not a bee-keeper. Taken as such, his facts, let alone his theories, would receive scant recognition from modern apiculturists. Here is one: "The meal of flowers, of which wax is formed, is one of the bees' most favourite repasts. This is a diet which they live upon during the summer, and of which they lay up a large winter provision. The wax of which their combs are made is no more than this meal digested and wrought into a paste." Here's another: "The queen-bee is always attended by a retinue of ten or a dozen bees, and those who compose her train are supposed to be males, and these impregnate her by turns." These two short extracts dispose of the famous naturalist as a dependable authority on bees.

Now let me turn shortly to his "peas theory," *not* credited by "most bee-keepers." Many writers of Buffon's time, as in our own, were thoroughly enthusiastic over the beauty and utility of the hexagonal cell, and to damp their ardour he seems to have thrown cold water over their admiration. He declared truly that crystals and other substances assume this figure in their conformation "as a result of pressure." "Let a vessel," he writes, "be filled with peas and closely shut up, after pouring in a sufficient quantity of water to fill up all the intervals between the seeds. Let this water be boiled, and all the cylindrical seeds will become columns of six sides. The cause is evidently mechanical, because every cylinder-shaped body tends, by its swelling, to occupy the greatest possible space, and hence they become necessarily hexagonal by reciprocal compression." Granted that all this is perfectly true, there is no analogy between the two cases. The hive affords no means for compression, and if the peas occupy only a part of the internal space of the vessel they will remain cylinders, and not hexagons. Given, again, that compression could bring about this result, would we not then find all cells equally uniform, or uniform according to the amount of pressure? But this we do not discover on opening a hive. At least three distinct shapes are made appreciably manifest to the naked eye—viz., worker-cells, drone-cells, and transition-cells; and cells where there can be no pressure are shaped just the same as where pressure may exist.

I need not traverse the oft-lauded beauty and perfect adaptation of the hexagonal form to comb-honey cells. The square, the triangle, and this shape alone would serve to leave no interstices; but it must at once become apparent to the most casual observer that the two first would not only consume more wax, but also be less well adapted to the shape of the bee. Great scientists agree that "bees truly construct their cells of the best figure, not nearly, but with exactness, and that their proceedings could not have been more perfect if they had the greatest knowledge of geometry." But the knowledge of the mathematician is not in the bee, but in the Geometrician Who made the bee. In my opinion, one of the most forceful arguments against Buffon's theory lies in the admirable arrangement of those irregular cells, found in almost every colony, where the bees departing from worker-comb wish to construct the larger cells required for drone-brood. They do not at once proceed to the new form, but construct transition-cells, working gradually to the new base, and to the new size of four instead of five to the inch. The diameter of each row augments progressively, and on returning to the original form a similar gradation is rigidly observed. All this shows a wise instinct on the part of the prescient worker-bees, and falsifies, I think, any suggestion that cells become hexagonal from simple pressure. Why, where there is no pressure in the combs cells are as beautifully six-sided as in any other part of the comb-surface. I am quite aware that, following the lead of several German scientists, a recrudescence of the Buffon theory has been favoured by several modern writers—with qualifications; but I am not aware that "most bee-keepers" hold it even as a pious opinion—indeed, my impression is that the opposite is the case.

I would prefer to go to First Cause rather than follow any reasoning by analogy. Now, a round cell would soon get knocked into a cocked hat when superimposed by scores of others full of heavy honey. The angular roof of each cell forms an ideal buttress against pressure, and so stands firm. This fact and the saving of space and material go far to show that the hexagonal was the original design, and selected for wise and sufficient reasons.

By the way, I once saw a hive (only once) where about 75 per cent. of the cells were *almost* circular, and the dip to the midrib was excessive. The comb was drawn out from simple starters, and was built by a very strong swarm, which had lost its queen, or, if she had been hived with the bees, she had been injured to such an extent that she never laid any eggs. I have seen small outside combs with very large cells in straw skeps with the abnormal dip these had, but nowhere else.—D. M. M., Banff.

BEES AND FORMIC ACID.

[7144.] I must thank Mr. Cowan for his admirable summary of the ascertained facts relating to the origin of formic acid in honey, on page 231 of the last issue of the B.B.J. If I may be allowed to say so, it forms a striking example of the advantage accruing to readers of this journal in the Senior Editor's intimate and unrivalled knowledge of all that is most trustworthy in the scientific progress of bee-keeping.—H. J. O. WALKER (Lieut.-Colonel), Lee Ford, Budleigh Salterton, June 11.

SPRING-FEEDING.

[7145.] Which is the best method of spring-feeding? When I began bee-keeping I picked up the idea that spring-feeding should be given at oft-recurring periods in small quantities, just sufficient for the daily needs of the bees. I found that in a large apiary a feeder was needed for each hive, and that to remove every roof and give a small quantity of food to each hive every day involved a great deal of trouble and loss of time. Gradually I discarded individual feeders, and every spring for many years resorted to open-air feeding. My method was to have a feeder capable of holding at least two gallons of syrup, and every fine day I put as much syrup in this as would supply twenty to thirty colonies. This plan served me well for a time. Of course, it is open to the objection that you may be feeding your neighbours' bees as well as your own. Strong colonies, too, would appropriate more than their comparative share.

Of late I have, I think, made another advance in feeding. This is, to feed all my hives by the introduction of frames of comb filled with warm syrup. I adopted the latter plan this spring for the first time, and must say the results are entirely satisfactory. I did not disturb the quills or the brood-nest, but simply placed the frame of warm syrup behind the dummy-board (all my dummies have bee-spaces underneath, and the frames run parallel to entrance), and the bees transferred the food to the very spot where needed within the brood-nest. The impetus given to the bees by this method of feeding is something surprising. I gave them usually one frame of syrup at a time, but in future would not hesitate to give them two or three frames at once, or sufficient at one feeding to serve for the whole spring.

The presence of a store of good food in the hive is one of the greatest incentives to brood-raising, and, I believe, much more effective than daily feeding by driblets. My experience coincides with that of many other experienced bee-keepers, to the effect that a hive well filled with good stores in autumn is in the best possible condition for rapid building-up of the colony in the succeeding spring. Therefore, rapid feeding in spring, up to the necessary quantum, would not be detrimental to the progress of the colony, but rather the most beneficial method. I shall adopt the same plan for feeding up my stocks at the back-end of season.

I have found this year that heather-honey is a bad food for bees, and I lost a few colonies this season by supposing that they were well off because they had a good deal of sealed stores, which turned out to be granulated heather-honey, and next thing to useless as food.—LANCELOT QUAYLE, Glen May, Isle of Man, June 10.

EXPERTS' CERTIFICATES IN SOUTH AFRICA.

[7146.] Referring to the editorial footnote to my letter, which duly appeared in the B.B.J. of April 30 (page 174), I beg to state that I am quite prepared to undergo an examination test under either of the persons named by you. But I would like to suggest that the test be carried out by correspondence through the post; first, on account of the extreme expense that would be entailed in travelling to either expert (£10 to £15 at the very least), and, secondly, owing to the fact that I cannot spare the necessary time for travelling (I could not travel to either place and back under a week or ten days) in this country of great distances.

In view of the facts enumerated I shall feel gratified if you will kindly put this matter through with all speed. Enclosing name, &c., for reference, I sign as before —CAPE BEE-KEEPER, Douglas, Cape Colony, South Africa, May 23.

[Our correspondent is evidently unaware of the nature of the examination to which candidates for the third-class certificate of the B.B.K.A. are subjected, or he would realise the impossibility of conducting it by correspondence. To make the matter clear we may say the work consists largely of manipulating live bees both in skeps and frame-hives, success depending on the neatness and expedition with which bees may be driven from a skep, the queen captured and caged, and the bees returned to their original domicile. This is followed by showing how combs may be safely handled in frame-hives without undue disturbance, the queen pointed out on the combs, &c. All this has to be done in a given time, during which the bees must be kept under control by the candidate before he succeeds in his object. On the other hand, the higher certificates, both first and second class, consist of paper-

work only, and this can be done anywhere under supervision on the spot. We learn that Miss D. M. Sillar, whose name was mentioned in our footnote on page 174, has now been placed in sole charge of the bees, poultry, and dairy at the Government Experimental Farm at Bloemfontein, O.R.C.—EDS.]

ISLE OF WIGHT BEE-DISEASE.

SPRAYING OF FRUIT-TREES.

[7147.] Your correspondent Mr. W. H. Harris (7140, page 234) raises the question as to whether this disease is due to the spraying of fruit-trees, &c., with chemicals. Speaking for myself, I cannot think this is the cause, and believe those who have suffered losses have, after full investigation, expressed the same opinion. Besides, it is not the practice to spray the trees whilst in bloom, and I cannot think that bees would willingly feed on such chemicals at other times. No doubt some mixtures have treacle added to make them adhere, but I have tried dishes of these mixtures placed out in the garden, and could not get the bees to touch them. No doubt many inexperienced bee-keepers will credit the loss of stocks to this disease, as pointed out in the editorial footnote to Mr. Harris's letter; but this is hardly the question. I take it what bee-keepers are anxious to know is whether a new disease has to be contended with or an aggravated form of an old one. Also whether the question is being investigated without loss of time by our scientists or others in a position to investigate and experiment. I am not an alarmist, but have certainly noticed more bees creeping about the ground in a semi-paralysed condition than ever before, and if we should be visited by an epidemic similar to that of the Isle of Wight, and which it is alleged has already reached Hertfordshire, it behoves us all to be up and ready. It was understood the Board of Agriculture were investigating, but they appear to require a little stirring up.—H. HILL, Ockbrook, Derby, June 12.

[Our correspondent is wrong in supposing that the Board of Agriculture require "stirring up" with regard to the Isle of Wight bee-disease. The Council of the B.B.K.A., as the recognised official body representing the bee-industry of this country, are in direct touch with the Board, and samples of such diseased combs as have any bearing on the subject received at the B.B.J. office are being sent to the bacteriologist who is making investigations on behalf of the Board of Agriculture, and also to the Continent, where distinguished scientists are similarly engaged.—EDS.]

ROSS-SHIRE NOTES.

THE SEASON'S PROSPECTS.

[7148.] The outlook is decidedly more promising than at one time seemed possible; in fact, prospects are better than at the corresponding period last year. Then the colonies that had given high promise in early summer were on the down-grade, whereas now the former weaklings are strong and still progressive. All but three of my own stocks are now at full working pitch, and these will soon be brought into line also. In as many strong colonies the queen has been confined by excluder to the lower story, and those combs of hatching brood with adhering bees given to the weaklings just before the honey comes in will make all the difference between a good surplus and none.

Colonies on close-end brood-frames wintered well, and are among my best. Being of the standing type, they can be worked without brood-boxes, or even without hives! They are almost ideal for the heather, being 2 in. shallower than the "standard," so there is less room for brood-nest storage. Mine were supplied by Mr. Alex. Reid, Urray, Ross-shire.

Foreign Bees.—These are proving their value where rapid increase is required. Italians and hybrids of same are in the lead, raising brood in double-story hives. Extra-prolific queens of these bees are building up the ideal strong colonies that alone can make the best of things, for the honey-flow will avail us nothing if our stocks are not in condition during the all-too-brief period while the land is bright with sunshine's balmy light.—J. M. ELLIS, Ussie Valley, June 15.

HIVES FOR USE IN SOUTH AFRICA.

A HINT TO BRITISH HIVE-MAKERS.

[7149.] Some time ago I wrote to you pointing out that the British manufacturers of bee-appliances were in danger of finding the South African trade captured by the Americans. I may say there is at the present time quite a boom in bee-keeping in South Africa, but I am sorry to see that, as far as Natal is concerned, very few British hives with the B.B.K.A. standard frames are used.

No doubt before very long all the bee-keeping appliances required will be manufactured in South Africa, but I fear that we bee-keepers who have remained faithful to British hives and the standard frame will find it very difficult to uphold their supremacy. The American hives which now are sold out here appear to be of excellent value, and I am informed that they answer their purpose well. They

(*Continued on page* 246.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

The straightforward account of Miss Kirk's bee-experiences, as told by herself in the following notes, will have a special interest for ladies who contemplate an outdoor life, as so many do just now, with the laudable purpose of taking their place in the world as workers and wage-earners. A lady who can single-handed take her place among our successful bee-keepers is worth taking pattern from, as showing what can be done in a suitable location by one who is willing to work and has the business capacity to realise the results of her labour. She says:—

"I began keeping bees, in 1886 with a stray swarm, which, curiously enough, I only possessed for half a day. In explanation of my brief ownership, I may say a man kindly came to my assistance and hived the swarm in a skep for me (I had never seen anything of the kind done before), giving special instructions the skep was 'not to be touched until he came again at night, when he would set it up and make it all right for me.' He kept his promise, and duly arrived at night, but to my surprise he came with a white apron in his hand; spread it out carefully on the ground near the skep containing the swarm, placed it gently on the apron, and after tying the latter on to the skep coolly walked off with the lot almost before I could realise what he was about! I never saw man or bees again, but you may be sure there were ructions about his action. A local bee-keeper hearing about it came the next night and generously offered to give me a swarm he had got that day. This offer I gladly accepted, and a week afterwards I bought a second swarm from the same man, and as I gained experience I have kept on adding to my apiary, and have no trouble in selling all the honey my bees can gather; the main trouble is getting enough of it. I work mainly for sections, but also get a fair amount of extracted honey, though I never get any very big 'takes' from particular hives as some do, never having kept a separate account. I take the hives nineteen miles to the heather in autumn, which I consider pays well for the trouble, as it saves me outlay for feeding up the bees for winter, even if I get no surplus from that source; but I generally get a little, and sometimes a considerable quantity, from the heather. The best harvest I remember having from the moors was somewhat over 800 heather sections and several straw caps for cutting out and pressing from the combs. I could not say how much the weight was now, as no account was kept. I am going to try a couple of hives with shallow-frames in the brood-nest this year, on the plan mentioned by Mr. Ellis, of Ussie Valley, in your pages, to see if I can get more finished work at the heather.

MISS BARBARA M. KIRK'S APIARY, STILLINGTON, EASINGWOLD, YORKS.

"And now, in concluding these notes, let me say how useful the B.B.J. query and reply columns are. One gets much help by reading the queries and replies as the year goes round, because if you

keep the numbers by you for reference someone is sure to have asked for just what you want to know, and our Editors know how to give sound advice. The season last year was the very worst I have ever known, the work of preventing loss of stocks being very trying to one who has to do all the work connected with the bees as I have; consequently a little help at times would be very acceptable. We are having a backward spring in this part, but things are now improving. I hope we shall have a good bee-time in 1908 to make up for the failures of last year."

("*Hives for Use in South Africa*," *continued from page* 244.)

are also thoroughly advertised. I trust that the British manufacturers will, by putting a cheap hive of good type on the market, yet make a bid for a share of the South African market appliance trade, which is growing so fast; but they will need to be quick about it or their chance will be gone.—HUGH M. MEYLER, Ladysmith, Natal.

NOTES FROM MY BEE-GARDEN.

THE SEASON IN SOUTH AYRSHIRE.

[7150.] From articles in the B.B.J. lately it would seem that throughout the country bees have not come through the winter very well, and that many stocks have died, while those that have weathered the backward season are for the most part weak. My experience is somewhat different; of course, I only speak for my immediate neighbourhood. My seven hives wintered well, and at the end of May were all overflowing with bees. I had to put supers on to give more room, and two of the hives—each headed by a two-year-old queen—swarmed, one on May 28, the other on the following day. The stock that swarmed first was wintered on seven frames, and during May I added three frames with full sheets of foundation, which they built out. During April and part of May I fed them with thin syrup to stimulate breeding, as weather was backward, and they were somewhat short of stores. As there are no bees kept within a mile of my apiary, I was able to experiment on outdoor feeding this spring. I used a 1-lb. syrup-tin, which, after being filled with thin syrup, was inverted and put on a plate, and a wedge of wood inserted underneath to allow the syrup to be taken quickly away by the bees. Very thin syrup was used, and the success which attended the experiment will certainly encourage me to try it again if required. The food was usually given in the morning, and was all carried off in the course of an hour or so. Open-air feeding saves much labour, but unless care is taken there are no doubt many dangers connected with it. The plane tree, or sycamore, yielded nectar freely in May this year, and later the hawthorn helped to supply the needful. There is now a great show of broom blossom, and many bees well coated with its golden dust are entering the hives.

This year I have so far only noticed one hive-bee working on the rhododendron, and up to time of writing there have been only two or three bees seen working on the daisy. Last year about this time they were frequently seen gathering pollen. In the interesting report on "Bees on a Roof in London," which appeared in the June *Record*, mention is made of "some of the bees returning to the hives covered with a red dust or pollen, which almost gives them the appearance of being covered with blood." A fortnight ago I happened to be in a garden where there is a large quantity of "London Pride" (*Saxifraga umbrosa*) grown, and which was in flower at the time. I observed bees working on this flower, and that they were covered with red dust. It is quite likely this is the plant from which the London bees gathered their pollen dust. A few days ago I noticed bees were hovering around some hives that had been recently painted with white-lead paint. On approaching nearer I found they were busy packing the paint in their pollen-baskets. This performance was continued for two or three days. The turpentine in the paint apparently induced them to try it as a substitute for propolis.

The weather for June has been fairly good here so far, and although the nights are cold just now, my bees are holding their own. The charlock (*Sinapis arvensis*) is coming into bloom, and will keep them going till the clover appears in quantity. Already in the lighter soils white heads of the latter plant are appearing, and a spell of really warm weather later on will bring a flow of nectar to fill the supers.

After twelve hours' rain yesterday the sun is shining brightly this morning, and I notice a number of bees busy on the rhododendrons, so my statements about this shrub must be modified. Weather conditions and seasons seem to play a part in making certain flowers attractive to the bees.—F., South Ayrshire, N.B., June 11.

BEES AND BUTTERCUPS.

[7151.] With regard to recent discussion in the B.B.J. on the subject of bees and buttercups, may I say that I have a hive of black bees, and about 150 yards away there is growing a moderate-sized bed of buttercups similar to the enclosed sample; so, having some spare time this

morning, and being interested in the discussion on the same, I went across to see if any bees were about, and found the abundant yellow blossoms perfectly alive with bees. I remained there for a full half-hour, and they were "busy as bees" gathering pollen the whole time I was there. Can you tell me what variety of the plant the flowers sent belong to? I send name for reference.—J. W., York.

[The variety of buttercup sent is *Ranunculus acris*, and our correspondent is quite correct so far as regards its being visited by bees in some seasons. They are at the present time busy on it in a district where *R. acris* grows abundantly, yet last year no bees were seen on its blossoms.—EDS.]

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of May, 1908, was £2,490.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Standardisation (page 202).—There is surely a lot of sound sense in the advocacy by "D. M. M." of "W. B. C." hive interchangeability. It does seem absurd that a hive which is on all hands admitted to be a good hive, an all-round good hive, as it stands, should be so mongrelised by crossing with the ideas, however good, of Thomas, Richard, and Henry; that specimens of each should be unrelated in their essential dimensions. It is certainly not to the advantage of the community, and it is doubtful whether it be to the advantage of the manufacturers, that there should be the "Lee 'W. B. C.,'" the "Abbott 'W. B. C.,'" the "Taylor 'W. B. C.,'" &c. It may be true that a change would be temporarily inconvenient, but this applies to most standardisations, and in the interest of the army of bee-keepers concerned it is to be hoped that manufacturers will rally to the standard!

Germs and Disease (page 204).—Mr. Farmer appears to me to have shifted his ground in his present explanation. He used to maintain that germs do not cause disease. This is not the same as that they do not *invariably* cause disease. Undoubtedly millions of pathogenic germs must prove abortive for lack of suitable ground wherein to grow; but, given such a suitable medium, they will reproduce their disease, as has been scientifically proven over and over again. Yet Mr. Farmer has seemed to assert the contrary, and Mr. Simmins, whom he has supported, appears to maintain that germs are not the cause, but the result, of disease. This is rather like saying that eggs are the result of hens, but hens are not the "result" of eggs! Investigation has so far seemed to prove that like produces like. It is this rock upon which friend J. Huxley seems likely to split. He maintains that the various bee-disease germs are derived in sequence from *B. mesentericus*, the potato germ, and that the cause of disease is a lack of pollen. It would greatly simplify matters if these writers would refer to such conditions as *predisposing* causes. That is, if that is what they mean. If not, perhaps they will in turn correct me. By the way, the strenuous advocacy by J. Huxley of a sufficient pollen-supply is undoubtedly sound, but it has yet to be proved in the laboratory that the potato bacillus will produce foul brood.

Spores (page 204).—I should like to ask Mr. Farmer when he considers the spore stage to have arrived. His "writings as a whole" appear to read as though this stage could not be reached in six months! That is to say, bacilli produced in the spring can find sufficient sustenance in one bee-larva for their continuous and progressive reproduction until the autumn. Now it has been shown that when the food supply fails these plants assume their inactive form. But Mr. Farmer writes as if they matured at a given date, and as if the spores were, upon formation, scattered about the vicinity in the explosive manner of some more highly evolved plant seeds. I judge this from his evident belief that his non-disinfected hives and quilts are to-day entirely free from spores. How interesting would be a discussion between Mr. J. Huxley with his spring-pollen-starvation theory and Mr. Farmer with his new and pollenless combs in spring! I wonder if Mr. H. would accuse Mr. F. of causing the disease by the very method he adopts to subdue it!

A Plucky Performance (page 206).—This lady is to be congratulated. Never was the reward of bees and honey and wax better earned! But it should be said in apology for the Kaffir boys who failed her at the critical moment that their costume is at least more vulnerable than —well, that of an English lady! It would be interesting to know why she desired "Peter" to get the ham! Was it to be used as whipping boy or stalking pig? Or, being a sweet ham, was it to be used as a subjugating meal, or to be fried on the corrugated iron, already rendered grilling by the temper of the stock below? But perhaps the half has not been told us!

Reversing Brood (page 207).—The probable effect of turning the brood-nest inside out, and thus bringing a hemisphere of brood into contiguity with the bottom of the super, would be that the bees, in their endeavour to re-right matters, would place pollen in the sections immediately above the broken brood-nest. A most undesirable consummation.

Sealed Disease (page 224).—I should like to confirm Mr. Farmer's description of sealed cells containing disease. They have, as he says, an appearance of "deadness," and should not be overlooked when scanning a comb. It is not only that the cappings appear flat or depressed, but they have not the normal porous appearance. There is a good deal of wax in their composition, and single capped cells outside the normal line should invariably be closely scanned.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 30 to July 4, at Newcastle (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. **Entries closed.**

July 16 and 17, at Sleaford.—Show of Honey, Hives, and Bee-Appliances in connection with the Lincs Agricultural Society. Bee-Department under management of the Lincs B.K.A. Fourteen classes. Liberal money prizes and silver medals. **Entries closed.**

July 22 and 23, at Burslem.—Annual Show of the Staffs B.K.A., in conjunction with the Staffs Agricultural Society. Liberal prizes. Five open classes, including one for single 1-lb. Section and single 1-lb. Jar. Schedules from Joseph Tinsley, Chebsey, near Stafford. **Entries close June 20.**

July 22 and 23, at Cardiff.—Annual Show of the Glamorgan B.K.A., in connection with the Cardiff and County Horticultural Society. Members', Novices', and Open Classes. Substantial money prizes. Schedules from W. Wiltshire, Assist. Hon. Sec., Maindy Schools, Cardiff. **Entries close July 16.**

July 29, at Henbury, near Bristol.—Annual Show of Honey and Wax of the Henbury District B.K.A., in connection with the Horticultural Society's Exhibition. Good prizes. 7 open classes, including free entry for single section and single bottle. Schedules of Hon. Sec., F. E. May, Bellasis, Stoke Park, Westbury-on-Trym, Bristol. **Entries close July 22.**

July 30, 31, and August 1 and 3, at Manchester.—Annual Show of the Royal Lancashire Agricultural Society. Liberal money-prizes are offered for honey along with silver and bronze medals of the B.K.A. and also of the Society. Open classes for Honey-Trophy, Sections, Extracted Honey, Beeswax, Honey-Confectionery, Bee-Flowers, Instructive Exhibits in Bee-Culture, &c. Schedules from Edward Bohane, Secretary, Miller Arcade, Preston. **Entries finally close June 27.**

August 5 to 7, at Halifax.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. Schedules and form of entry from John Maughan, Secretary, Blake Street, York. **Entries close June 27.**

August 6, at Madresfield, Malvern.—Annual Show of the Worcestershire B.K.A. Open class for 12 1-lb. jars Extracted Honey. Entry forms and schedules from Geo. Richings, 2, Shrubbery-terrace, Worcester.

August 12, at Wye (Kent Honey Show).—Five Open Classes: Trophy, cup value £3 3s. (entry 1s.), 1 lb. Section, 1 lb. Light Run, 1 lb. Dark Run, 20s., 10s., 5s. in each case (entry free); Beginner's Outfit, to retail 30s. (entry free). Fifteen Classes open to Kent: Two Challenge Cups, value £6 6s., and money prizes for 6 1-lb. Sections and 6 1-lb. Jars Extracted Honey. Money prizes for 6 Jars Light, 6 Jars Medium, 6 Jars Dark Extracted Honey, 2 Shallow or Standard Frames, 3 Sections and 3 Jars, 1 Jar Granulated, Beeswax, Mead, Candy, Cake Sweetened with Honey, Display of Cut Flowers, &c.; two Special Classes for Cottagers. Schedules of J. Tippen, Secretary, Wye, Kent. **Entries close August 5.**

August 12 and 13, in The Park, Taunton.—Somerset B.K.A. Annual Show, in conjunction with that of the Taunton Deane Horticultural Society. Increased Prizes. Sixteen classes, including eight open and two free. Schedules from L. E. Snelgrove, Hon. Sec., Cromla, Locking Road, Weston-super-Mare. **Entries close August 7.**

August 19, at Lancaster.—Honey Show and Bee Demonstration, &c., in connection with the Lancaster Agricultural Society's Show. Open classes. Special prize, including silver challenge cup, value £6 10s., seven silver and bronze medals, &c. Schedules from Thos. Armistead and Son, auctioneers, Lancaster. **Entries close August 5.**

August 19 and 20, at Shrewsbury.—Annual Show of the Shropshire Bee-keepers' Association will be held in the Quarry, Shrewsbury, in connection with the Shropshire Horticultural Society's Great Floral Fête. Eight Open Classes for Honey. Free Entry for Single Bottle and Single Section. Schedules from S. Cartwright, Hon. Secretary, Shawbury, Shrewsbury. **Entries close August 7.**

August 20, at Abingdon Park, Northampton.—Honey Show of the Northants B.K.A. Special prizes for open classes, including one for single 1-lb. jar honey. (**Entry free.**) Prizes 20s., 10s., 7s, 6d., and 2s. 6d. Schedules from R. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 16.**

September 5 to 12, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Trades' Sixteenth Annual Exhibition and Market. (See large advertisement on page iii.) **Open to all British Bee-keepers.** Entry fee in each class 1s. Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 19 to 26, at the Agricultural Hall, London.—Honey Show in connection with the Sixteenth Annual Exhibition and Market of the Grocery and Kindred Trades. Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.** Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

Queries and Replies.

[3728.] *Swarming Vagaries.*—Would you kindly tell me in the B.B.J. what variety the enclosed bees belong to, and are they of a breed that is prone to excessive swarming or inclined to breed too many drones? I believe the original queen was purchased from Mr. S. Simmins, but not by myself. I may say a swarm came out at 8 o'clock a.m. on May 27 which weighed 7¾ lb. I successfully hived them, and cut out twelve queen-cells from parent hive, leaving one. The bees started two new queen-cells same night. The result was that a "cast" weighing 5 lb. issued on June 8. I hived them in skep, then cut out two queen-cells (the latter hatched out in about an hour in the greenhouse), after which I returned the "cast" to the parent hive. A bee-keeper of thirty-three years'

standing remarked on seeing the bees fifteen days before the first swarm issued, "It is the strongest stock I ever saw." But, notwithstanding this, nothing I could do would induce the bees to enter the super. Twelve months before he said I could not have a weaker stock. Name sent for reference. —A 1907 BEGINNER, Bath, June 11.

REPLY.—The three bees (queen, drone, and worker) are of the common brown or native variety; they are, if anything, rather smaller in size than usual. Why has dead queen been sent, and which hive did she come from?

[3729.] *Preventing Swarming—Ripening Honey.* —Will you please reply to the following in the B.B.J.? 1. As I do not wish to have any new queens this year, how often ought I to examine the brood-chamber to destroy the queen-cells? 2. How long ought I to leave honey in the hive to ripen after it is sealed? 3. Is it best to leave completed sections exposed to the air for a short time before packing away? 4. After I have finished extracting surplus honey, should it be put into a strainer before running into the glass jars? 5. What kind of strainer should I use?—T. H. WINTER, June 10.

REPLY.—1. A full answer to this question appeared last week in reply to 3723 (page 238), to which we add a line to say, Don't examine brood-chambers at all when bees are storing honey in surplus-chambers above. To do so is not only a difficult task—with a crowded stock to deal with—but it is open to objections obvious to any experienced bee-keeper. 2. Sections when fully sealed over should be removed as soon as convenient. Combs for extracting also need not be left on when the gathering time is dry and warm, as at present. The honey will ripen somewhat on the hive, but there is no absolute necessity to leave it on for the purpose after it is fully sealed over. 3. No. 4. Extracted honey must be carefully strained before jarring off, to remove all particles of wax, &c. 5. We prefer to strain honey through fine muslin, squeezed well after soaking in hot water, if the honey is to be sold as high-grade quality; but the fine wire-cloth strainer answers fairly well. See page 88 (Fig. 67) in "Guide Book" for a good honey-strainer and ripener.

[3730.] *Queen Cast Out in June.*—1. The enclosed queen was found outside one of my hives yesterday. Is it a "virgin" or an old queen? 2. Is it possible for a "virgin" queen to get through a queen-excluder? An answer in next week's B.B.J. will oblige. I send name, and sign—NORTHOP.

REPLY.—1. The queen sent is a fully developed and apparently prolific one, of more than usual length, and of matronly proportions. 2. A virgin queen, if at all undersized, can squeeze through excluder-zinc, and not seldom does so in some circumstances.

[3731.] *Buying Bees from Advertisers.*—As a reader of the B.B.J. and the *B.K. Record*, I shall be greatly obliged if you will kindly examine the two combs which I am sending to you. The stock from which they were taken was bought from an advertiser in your columns. In answering the advertisement, my specification was for a stock which was to be "guaranteed perfectly healthy, and the hive never to have contained foul brood." When received, the bees seemed right, the three combs occupied by brood at that time being almost new; but when I examined them last Friday, I found several of the cells with sunken caps, and on the older combs hundreds of them, perforated and foul smelling. The comb without brood which I have sent you has not been bred in this year, but I notice that a number of the cells appear to contain the remains of foul brood, and shall be glad if you would especially note this one. The other combs I burnt at once, and treated the bees for foul brood as per the "Guide Book." The seller is no novice in bee-keeping, as he has written articles in the B.B.J., and if, as I think, it is a case of foul brood of old standing, he is no friend to bee-keepers or the bee-keeping industry who will knowingly send out diseased bees. I have three other stocks, and feel rather anxious about their safety. Would you advise me to write to the man for an explanation? I have received many valuable hints from the "Guide Book" and the B.B.J., but there is one which I neglected, and that was the recommendation given to buy swarms in preference to stocks. I send name for reference, and sign—SMITHILLS, Horwich, June 12.

REPLY.—Of the two standard frames of comb sent, one is undoubtedly affected with foul brood; but it does not appear to be of virulent type, the "foul smell" you refer to being simply that of ordinary decaying brood. The other frame of comb, which, as stated, "has not been bred in this year," has in it only three or four sealed cells, all the rest being empty, or holding only a little pollen, and when probed the sealed cells had in them no trace of brood at all. It is, therefore, quite possible that the seller himself was unaware of any disease being in the stock when despatched, and, in consequence, could not be justly charged with "knowingly" selling diseased bees.

[3732.] *Failures in Re-queening.*—On May 25 several combs in one of my hives were a mass of drone-brood and drone-cells, though the queen and bees were a swarm received from England in June, 1907. They were duly hived, and made plenty of worker-brood last year, but gave no surplus. The queen, I found on a recent examination, had frayed wings. An experienced bee-keeping friend removed her and all the drone-comb, substituting frames of new foundation, inserted at the sides of body-box, and one frame containing worker-eggs in the centre (taken from another hive). The hive was fairly strong in bees at the time, and I was assured that the bees would build new queen-cells round the eggs given, that the latter would be sealed by June 3, and a new queen would hatch out by June 9. However, when an examination was made on June 2 it was found that nothing of the sort had taken place, and that the bees were fast dwindling away. I therefore ordered a new queen, but before she could arrive I noticed that the bees were nearly extinct, and were attempting to enter other hives, causing fighting thereat. Next day the hive appeared to have been deserted, and my other bees were busy robbing out the plentiful stores of honey it contained. This latter fact I ascertained by dredging them with flour and tracing them to three other hives. By nightfall on June 4 all the bees in the drone-breeding hive were dead or had departed. Under these circumstances I ask: 1. Is it any use attempting to raise a new queen from a frame of eggs under the conditions named? 2. What caused the bees to dwindle away so suddenly as described, and could they possibly have joined robbers? 3. Would fighting at three other hives be caused by bees from drone-breeding hive seeking to join their neighbours? 4. Where did I go wrong in my experiment?—CHAS. DUNLOP, Arran, N.B., June 10.

REPLY.—It would appear that the bees were not allowed sufficient time to realise the loss of their queen when the frame of comb containing eggs was given to them. Not only so, but we must assume that "combs full of drone-brood" showed that the queen was old and worn out for some time, and the bees were demoralised in consequence. We may therefore say:—1. It was useless trying to get a queen reared under the circumstances. 2. The bees, finding themselves queenless, no doubt joined the robbers, as they often do when a queenless stock is being robbed out. 3. Very likely. 4. The mistake was in trying to get a queen raised instead of uniting the bees to your nearest stock.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

P. W. S. J. (New Barnet).—*Comb-foundation and Bees.*—Before publishing anything in our pages with regard to the quality of goods you wish to recommend, we shall be glad if you will first send us the name of the dealer whose goods are referred to in yours of the 14th inst.

Suspected Combs.

G. R. (Lincs).—Comb is affected with foul brood of old standing. We cannot understand any expert not being able to see the condition of such a specimen at a glance.

B. W. (Devon).—Comb contains nothing worse than chilled brood.

Humble Bee (Ayrshire).—The bees in comb were hatching out in dozens after being subjected to our Southern warmth of late. It was a pity to send so much hatching brood, as it meant the sacrifice of a good number of bees. There is no foul brood in comb, the few dead larvæ in sealed cells having the appearance of being affected with a mild form of black brood. We should allow the bees to go on working in the sections as they now are, and treat the stock later on according to the progress the bees make in honey-gathering. The colony must be very strong to be working in supers so far north as you are located.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, Pure English Honey, also a few dozen Sections; sample 3d.—LAW, Cuckoo, Ashwell, Herts. h 2

VIRGINS, from Sladen's celebrated strain, 1s. 9d.; Fertiles, 5s. 6d.; Nuclei, from 10s. 6d. —PAUL, Salisbury-road, Bexley. g 95

GOOD 8-Frame Stocks, with Brood, 1907 fertile Queen, guaranteed healthy, 22s. 6d.; 10-Frame ditto, 25s. 6d.; Honey-strainer, by Meadows, 7s. 6d., holds 1 cwt.—W. WOODS, Normandy, Guildford.

"DARNESI," perfect treasure for repairing damask, all kinds of hosiery; no worry, no eye-strain. Free, with directions, 1s., P.O. — L. LYNDE, Bletsoe, Beds. g 99

BUFF ROCK COCKEREL, 1907, and 3 Pullets, all ringed 1907, Worcestershire Poultry Farm's laying strain, sound Buff. Exchange 3 Swarms, or offers.—E. VARTY, Diseworth, near Derby. g 98

WOULD EXCHANGE 3 dozen Geraniums, 2 dozen Stocks, 2 dozen Asters, 2 dozen Lobelia, 2 dozen Pyrethrum, 1 dozen Calceolarias, for Swarm of Bees.—HUGHES, Mat Fen, Corbridge-on-Tyne. g 97

2 STRONG, HEALTHY STOCKS, on 8 Frames, comb and brood, 18s. each.—ALEX. HAYES, County Asylum, Winterton, Ferryhill. g 96

WANTED, Swarm. Will exchange nearly new Honey-ripener, by Taylor.—163, Norwood-road, Herne Hill. g 94

WANTED, a good secondhand Extractor.—H. P. PERKINS, Ver Cottage, Frogmore, near St. Albans. g 93

FOR SALE, Observatory Queen-rearing Hives. Cash or Swarms.—DAY, 61, Hill-street, Coventry. g 92

Special Prepaid Advertisements.—*Continued.*

SWARMS OF BEES, 10s. 6d.; Honey Label Printing Block, 2s.—BERRESFORD, Spital, Chesterfield. g 91

"CHAPMAN HONEY PLANTS," 30 seedlings, 1s., free.—FRASER, Rheda-terrace, Cleator Moor. g 90

A FEW GOOD SWARMS for immediate disposal, 15s. each.—W. SAUNDERS, Stapeley Manor, Odiham, Hants. g 88

SECTIONS HONEY COMB WANTED, first grade only. State price.—SMITH AND CO., 17, Cambridge-street, Hyde Park, London. g 89

YOUNG MAN willing to give his time to Bee-farmer, small salary.—F. G., c/o "Bee Journal." g 87

GOOD LADY'S CYCLE WANTED, in exchange for Harmsworth Encyclopædia, Cassell's Popular Educator, new Beehives, Appliances; list. —J. BOWDEN, Broomhill, Witley, Surrey. g 85

3 SECONDHAND BAR-FRAME HIVES, with Excluders, also smoker, 10s. 6d. lot.—MOORE, Thrupp, Stroud. g 85

DON'T MISS THIS.—Having more bedding plants than I can find room for, rather than destroy I will send 200 plants, in about 10 varieties, including Asters, Petunias, Marigolds, Stocks, Balsams, &c., for 1s. 6d., carriage paid.—S. G. LEIGH, Broughton, Hants. g 85

QUEENS.—"Doolittle" strain again to the front. Virgins, 1s. 6d.; Fertiles (in a few days), 5s. Customer writes: "Your queen again heads my strongest colony."—D. TAYLOR, Ilminster. g 77

SWARMS, 2s. 3d. lb. on rail March; empties returnable.—PEPPER, Guide Post March. g 80

PROTECT YOUR FRUIT.—Tanned Garden Netting, only best quality supplied, 25 yds. by 8 yds., 50 yds. by 4 yds., and 100 yds. by 2 yds., 9s. each.—L. WREN AND SON, 139, High-street, Lowestoft. f 70

WANTED, 1,000 Bee-keepers to try my Cottage Hive, with Frames and Sections, painted, 9s. 6d.; genuine "W. B. C.," with Frames and Sections, 15s.; above Hives without Frames and Sections, 6s. 6d. and 13s.; Section Racks, 1s. 3d.; with Dividers (metal), 1s. 9d.—SOUTHERN BEE-HIVE WORKS, Hellingly, Sussex. e 85

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

QUEENS.—Carniolan Hybridised either with English or Italian Drones, whichever preferred, by special process, 5s. each.—S. J. BALDWIN APIARY, Bromley, Kent. g 32

ELECTRICAL OUTFITS for embedding Wires in Foundation, satisfaction guaranteed, from 4s. 6d.—S. J. BALDWIN APIARY, Bromley, Kent. g 31

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ITALIAN QUEENS, tested, 6s. 6d. each; imported, 5s. 6d.; by return post.—G. THOMAS, Pwllcrochan Rectory, Pembroke. g 56

"THE PREPARATION OF HONEY AND WAX FOR THE SHOW-BENCH," by Joseph Tinsley, Lecturer and Expert to the Staffordshire Bee-keepers' Association. Scores of testimonials. One bee-keeper writes: "Full of hints both to beginners and those further advanced. A veritable gold mine to exhibitors."—Post free, 7d., from JOSEPH TINSLEY, Chebsey, near Stafford. f 74

Special Prepaid Advertisements.—*Continued.*

SECTIONS WANTED FOR CASH, in any quantity, glazed.—Write, stating lowest price delivered and about when ready, to K 731, care of Shelley's, Gracechurch-street, E.C. g 69

"STAFFORD" Adaptable Spoon Rest, prevents Spoons descending into honey-jars, &c., and keeps the handles clean (see "B. B. J.," page 70).—From all appliance dealers, or patentee, S. YOUNG, Crabbery-street, Stafford. Send 7d. stamps for sample.

HEALTHY SWARMS, 14s. each, best strain; my Apiary of 40 Stocks can be inspected by appointment. Deposit.—P. HANSEN, Gardener and Bee Expert, 5, Gladstone-cottages, Norwood Green, Southall, Middlesex.

HEALTHY STOCKS, in Frame Hives, 30s. each; Natural Swarms, 15s.—CARTER, Chartridge, Chesham, Bucks. g 57

NATURAL SWARMS, 3s. lb., English Bees, healthy, ready June. — BRADSHAW, Allerston, Pickering. g 44

CLOVER HONEY, good quality, 1 lb. Screw-cap Jars, 77s. gross, 21s. ½ gross; ½ lb. ditto, 45s. gross, 13s. ¼ gross; Honey, in bulk, 48s. cwt.; samples, carriage paid, 8d. — Further prices and particulars from TURNER BROS., Sandpit Poultry Farm, Croydon. e 86

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WANTED, 500 Swarms, before July 1.—Numbers, price, and particulars to HERROD AND STEWART, Luton. f 42

THE FOLLOWING are offered in exchange for Swarms: Hearson 60-egg Incubator, Turkey Eggs, also bound volumes "Bee Journal."—HERROD, Luton. f 43

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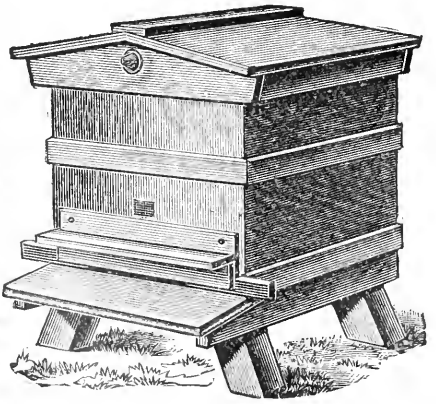

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THE
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AND BEE-KEEPERS' ADVISER.
ESTABLISHED 1873.
A Weekly Journal Devoted to the Interests of Bee-keepers.
EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR
OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

REGISTERED FOR TRANSMISSION AS A NEWSPAPER.] [ENTERED AT STATIONERS' HALL.

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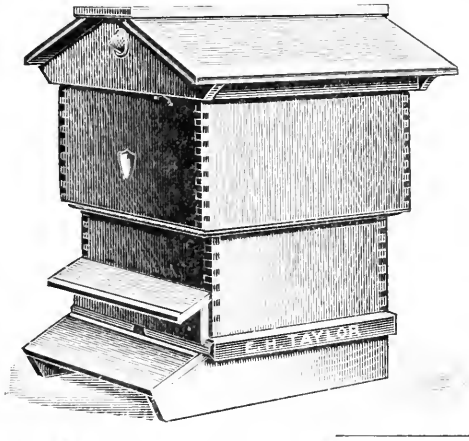

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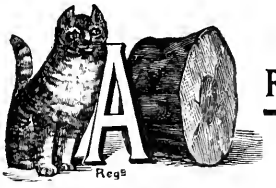
NEW  READY

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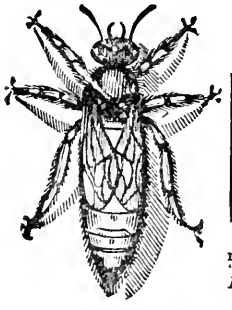

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held at 105, Jermyn Street, S.W., on Thursday, June 18, Mr. W. F. Reid occupying the chair. There were also present Messrs. T. Bevan, W. Broughton Carr, E. Gareke, J. B. Lamb, G. H. Skevington, Colonel Walker, E. Walker, and the Secretary.

Apologies for absence were received from Mr. T. W. Cowan, Miss Gayton, Mr. E. D. Till, Rev. W. E. Burkitt, Mr. W. H. Harris, Mr. H. Jonas, Mr. A. G. Pugh, and Mr. R. Godson.

The minutes of the previous meeting were read and confirmed. Mr. N. W. R. King, Eastwell Park, Ashford, Kent, was duly elected to membership of the Association.

Mr. Thos. Bevan presented the Finance Committee's report, together with a list of cheques required. The report was approved.

Mr. J. B. Lamb reported that the Congress Committee had completed arrangements for the meetings to be held at the Franco-British Exhibition on the 25th inst., which promised to be very successful.

The examiner's report upon the "paper work" of the candidates for first-class expert certificates was received, and it was resolved to ask certain of the candidates to attend the Council meeting on July 16 for the lecturing test.

The Secretary reported that it had now been decided by the Board of Agriculture to collect and publish in the Agricultural Returns statistics in regard to bee-keeping and the production and value of honey, and that he had promised to assist the Department in every possible way.

The next meeting of the Council will be held on Thursday, July 16.

NORTHUMBERLAND AND DURHAM B.K.A.

ROYAL SHOW AT NEWCASTLE.

A meeting of bee-keepers will be held in the Y.M.C.A., Blackett Street, Newcastle-on-Tyne, on Thursday, July 2, at 6 p.m., for the purpose of discussing the North Country bee-keeping industry.

Amongst other things, a new heather-hive will be exhibited and explained by W. E. Moore-Ede, Esq., M.D., vice-president of the association. This hive is known in America as the "divisible brood-chamber hive," and about forty of them are now in use by local bee-keepers. Experience has so far justified the experiment, and it is hoped that by a judicious use the yield of heather-honey will be greatly increased.—J. C. Hedley, Hon. Secretary, Woodburn, Stocksfield, June 19.

In sending the above for publication in our pages the hon. secretary of the Northumberland and Durham B.K.A. cordially invites all members of the B.B.K.A. and other bee-keepers present at the show to the meeting in question, and hopes they will take part in the discussion.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[7152.] June has been a favourable month for bee-keepers, the longest day having passed in a blaze of sunshine, though when evening came the wind veered round to the north and a fall of temperature was soon felt. The question is: What of the honey-harvest? If we had full colonies of bees no doubt the harvest would be an average one, but with so many vacant hives and weak stocks, along with very few swarms, I do not think we shall have more than half a crop; and—as stated in my last "Notes"—I think that those bee-keepers who manage to secure a good "take" of honey should not accept a low price, especially for good-quality honey in sections.

The mowing machines have already laid the bulk of our bee-forage in my neighbourhood, but where white clover is plentiful the plant will soon recover and throw up an abundant second crop of blossom; this with the vetches now in full bloom will carry us on till the lime-trees blossom in July.

Swarms.—There is apparently a scarcity of swarms, owners of large apiaries having in some cases as few as two or three from all their hives. Possibly the return of warm nights may start swarming again, but the season for swarms is rapidly "flitting," as midsummer swarming is rare. Still, "bees do nothing invariably," and they may swarm later on.

Wax-moth.—Combs from hives in which bees have died out may, if clean and not too old, be used again for hiving swarms, if the wax-moth has not spoilt them. The best method I know for preventing the damage from moth is to hang the combs in empty hives quite apart, and fumigate them occasionally with sulphur; this can be done by placing the hives

containing the combs in a pile one on the other, and burning sulphur in the bottom hive, a sack or board on the top of the pile of hives to keep all close down. If the hives do not fit close enough to keep in the fumes, strips of paper should be pasted round the cracks.

Honey Reports.—If bee-keepers in the British Isles would take the trouble of sending to the B.B.J. office fortnightly reports of the honey crop and prospects, or at least monthly, I think our Editors would be in a position to estimate fairly well how prices should rule for the season; these reports not for publication, but to enable our Editors to publish in the B.B.J. and *Record* monthly the approximate market prices for honey, both extracted and sections. I have already had inquiries from "dealers" who purchase in large quantities. Unfortunately, I have none to offer, as my regular customers take all I am able to produce in a good season with my apiaries in full swing. This season's shortage of honey-gatherers spells a smaller output than usual.—W. Woodley, Beedon, Newbury.

GERMS AND DISEASE.

[7153.] "Doctors differ," and Mr. Crawshaw and myself have evidently different points of view. It may be entirely contrary to what Mr. Crawshaw would expect, but the fact must be recorded that in spite of the old quilts having been left on bees are at this date (June 20) free from foul brood in my apiary. The county expert paid me a friendly visit three days ago, and though he did not go through all the hives, such as he did look at were found to be quite healthy.

Mr. McEvoy in Canada uses the old hives, &c., over again, without disinfection, and claims to be successful. No doubt much depends on the stage of disease reached. I should not myself advise other people to do many things that I do, simply because they might not use proper discrimination. I knew perfectly well that there were no spores in any open cell in any of my hives when I "shook" them last autumn; such disease as existed was either sealed up entirely or in the wet stage. I do not find it to dry up rapidly, and, in fact, unless the hive is badly infected, very little disease shows in the open cells. As a rule, I have found it at first commencing in cells that are sealed. Most people first become aware of its existence in the open-cell stage. For myself I am inclined to think that it proceeds rather in the reverse way to commence with, but invariability is seldom a characteristic of anything in this world.

I am inclined to believe very strongly that destructive germs have no power over a really healthy organism—certainly not over a really healthy, right-living man. The many authentic cures of consumption show clearly that this is so. The healing influence of fresh air and proper nourishment enables the sufferer to develop such tone as prevents the germs from thriving, and, though actually in possession, and even consuming the substance, of the lungs, the germs are altogether defeated by the healing power of Nature. One need not be prepared to assert that bees are like man in this respect, but it is reasonable to infer that such a power may be inherent in bees also. We are very ignorant as yet, and many theories that are cherished to-day will give way to greater knowledge in the future.

The Season of 1908.—Given some heavy rain, we should have a good season. On the other hand, if rain fails to come, we shall have a very poor crop. Almost no rain has fallen here for eight weeks, and our hilly country cannot stand much drought. I have not seen a single bee on the hawthorn here this season. This once more illustrates the fact that two people may differ radically in their experience and yet both be right. Bees certainly visit hawthorn and do well on it, and they also visit buttercups, but do not invariably visit either one or the other. I have also seen them neglect the lime-trees utterly when they could get plenty of clover-forage. The sunny weather prevailing is good for the bees' health, anyway. The sunshine does not appear to be universal. I was in Ireland a week ago and found it very damp—a great contrast to Cornwall. Given a drier climate, Ireland would be a grand country for bees.—W. J. Farmer, Redruth, June 20.

HELPING ISLE OF WIGHT BEE-KEEPERS.

PROLIFIC DRIVEN BEES.

[7154.] I am glad to say the first lot of bees sent to the Isle of Wight in connection with the "Bee-Fund" has thus far proved a prolific stock in the shape of swarms, as will be shown by the following letter received from Mr. B. Russell, Limerstone, Isle of Wight, a village where every stock had died in 1906, and they were without bees during the summer of 1907.

Mr. Russell says:—"I have had three swarms from the driven lot of bees given by Mr. Owen Browning, and sent me last August. The first swarm came out on May 27, and I think it was the largest swarm I ever saw. The second swarm from the same hive came off on June 3, and the third on June 10, so now I have four stocks, and they all seem to be going on

well. I do not suppose I shall get much honey with so many swarms, but it is something to see four hives alive with bees again. I thank you very much, and I hope the bees will do well."

I add a line to the above to say that, in order to avoid in-breeding, it has been arranged that bees from different apiaries should be sent to a particular locality. —JOHN SILVER, Organiser to the Isle of Wight Bee-Fund, Croydon Grove, Croydon, June 22.

ISLE OF WIGHT BEE-DISEASE.

[7155.] I notice that some of your correspondents are inclined to blame artificial poisons as the cause of our bee-disease, while others attribute it to bad seasons, and consequent starvation. With regard to poisonous compounds, there is very little spraying of any description done on the island, and from inquiries made of the leading farmers, chemists, and gardeners it is found that there is nothing used here except what is common to other parts of the country, and what are used are not of a sort likely to attract bees. The starvation theory is overthrown on the ground of our strongest and best honey-gathering stocks contracting the disease first in almost every case. I knew a stock that last year gave a surplus of over 200 lb. (a record for the Isle of Wight), and at the end of the honey-flow was smitten, and dead by mid-November. I am afraid we must look for a far more serious cause of the trouble than either of the above-mentioned things.

The Disease in Herts and Bucks.—Is it the same as we have here, or is it not? The daily papers say it is. If they are correct, no good purpose can be served by hushing it up; instead, there should be boards set up all round the infected area warning bee-keepers to beware. If, however, there is nothing in it, only another bee-scare, for which someone will have to answer, the sooner the fallacy is exposed the better. Certainly the Board of Agriculture do not want stirring up. It is a pity that all our Government Departments are not as active. I have been continually supplying them with diseased specimens for their investigation during the last two years, and only just lately they have had a scientific expert studying the disease here on the spot. People little realise the difficulties attending an investigation of this sort. All the bees that have been sent to the island by Mr. J. Silver in connection with the I.O.W. Bee-Fund, are, I believe, doing well, and during this spring there has been but little disease showing. Let us hope that the worst is now past, and that brighter things await us ahead.

Experts and Foul Brood.—Referring to Mr. J. Silver's letter (7124, page 213), I would have no sympathy for an expert who does not know foul brood, whether it is sealed or unsealed. As a bee-expert the man who cannot tell is not worth his salt. Touring about the country, he is only leading people astray, and at the same time helping to spread the disease. If this one was short-sighted, as one suggests, he should hand the job over to someone who can see; otherwise he should invest in a pair of spectacles. If the experts cannot distinguish between healthy and diseased brood, how can we expect to educate the ordinary bee-keeper, who often does not get the time or the opportunity of learning much except from the visits of the expert? The only excuse I can think of is that possibly he had to hurry through his work to get in a certain number of visits to satisfy his association, and thus only had time to make a superficial examination of each hive.—H. M. COOPER, Thorley, Isle of Wight, June 20.

BEE-KEEPING IN MEXICO.

A B.B.J. READER'S EXPERIENCE OF ITS BEE-FORAGE.

[7156.] On April 30 I forwarded you by parcels post a sample of honey and some bees, together with a letter which I hope may arrive. In your esteemed B.B.J. of September 12 last, page 369, you stated that the honey received from me was "the thickest you had seen for some time." This was produced from orange, lime, lemon, and citron trees.

The honey now on the way is still denser, and from an entirely different source, as, although the orange and other trees mentioned blossomed profusely, I noticed that, notwithstanding these trees surround the hives, the bees paid scarcely any attention to them, but crossed the river to the mountain sides, distant a thousand mètres or more, and procured the nectar from the flowers of the shrub sprigs of which, with flowers and leaves, I beg to enclose for your inspection. This shrub grows to a height of 6 ft., covered with blossom of a bluish purple colour, and is called "salvia," Spanish for sage, but a bee-keeper from the sage country of California told me that the plant does not belong to the sage family. Not being a botanist, I should esteem it a favour if you would kindly classify it. As a honey-producer I think it must be difficult to excel. Since the end of January two hives have yielded 208 lb. of strained honey from the source mentioned, all as per sample, and each hive has its super about half-filled, or, say, 25 lb. to 30 lb. each. People here use this salvia for

flavouring dishes, and they say they can detect its flavour in the honey. For my part, I cannot even taste honey of late years; it causes nausea. Anticipating best thanks for the kindness requested.—FRANK W. BREACH, Chínipas, Chihuahua, Mexico, May 17.

[We regret to say the samples of honey, &c., have not yet reached us.—EDS.]

PRIME OR SECOND SWARMS—WHICH?

[7157.] In your issue of June 11 I notice a query by Mr. H. E. Leyland (3725, page 239) asking whether his swarm was a first or second. In the reply given you state that, "judging from the particulars given, it seems about certain that it was a second swarm, as in no other way could the condition of swarm and parent stock be accounted for." The following experience which I had three years ago would lead me to infer that the swarm in question was a first swarm, as Mr. Leyland says he "did not think it was a second swarm," and seems certain that the hive had not swarmed previously. In my own case of three years ago I made up an observatory-hive from three combs, brood, and young bees, and one frame of foundation. The bees bred two queens, which both emerged from their cells about the same time (June 8). The following Monday (June 12) the hive swarmed, one queen and more than half the bees leaving the hive, and clustering on some raspberry canes. If the old queen in Mr. Leyland's hive had died about a week previous to the swarm coming off everything would be explained by the foregoing incident. Name sent for reference.—CARBON, Co. Durham, June 12.

[If our correspondent reads carefully the query and reply referred to, he will see there is no analogy between his case and that dealt with in our reply.—EDS.]

BEE-SUPERSTITIONS IN CORNWALL.

[7158.] On June 17 I was cycling in the adjoining parish of Sithney, and called upon an old skeppist to look at his bees. He was not at home, but a young man (his son) told me that his mother had recently died, and drew my attention to the fact that a piece of crape was attached to each of the eight stock-hives in the garden. The young man informed me that his father firmly believed that unless the bees "were put into mourning" the whole of them would die.

Something similar occurred about two years ago. I called upon a man—a "class leader," by the way—on a matter of business, and in the course of conversation he stated that at one time he had many "butts" of bees, but "they all died the same time as mother." His son who was present remarked, "They would not have died if you had put some crape on them, would they, father?" "No," said the "leader," "but I forgot all about it." I am told it is also considered unlucky to buy bees. You will have "poor speed," they say, and in order to get over the difficulty exchanges are made up to the value agreed upon.—A. J. S., Godolphin Cross, Helston, June 22.

"PRICES OF HONEY."

[7159.] Under the above heading I notice in your monthly *Record* (page 76) that our friend Mr. W. Woodley speaks of "the way the trade in honey is 'nobbled' by the middleman," and states "there is not a gross of sections left over (in the country) from 1907." And yet, in face of the bad season of 1907 and all its losses to the bee-man, the Press helps the honest middleman week in and week out to advertise honey in bulk at 48s. per cwt. Of course, this is not called "British" or "English" when advertised (whatever it may be after), but all the same a good honey is worth at least a fair price, and such is not 48s. or near it. I send name for reference, and sign—B. B. B., Royston, Cambs., June 22.

THE BEE-INDUSTRY IN S. AFRICA.

[7160.] This industry, like many others here, is fifty years behind the times; in fact, it may be said that until quite recently nothing but the old crude system existed. European countries have made rapid strides in the development of the bee-industry. To do this various associations were started, and experts were engaged to lecture and give demonstrations with live bees at the various agricultural and horticultural shows. This work has been since taken up by the different Governments, and grants have been made in England to the various County Councils, who allot a sum for that purpose. That there is just as much need for such education in this country is quite certain, when we remember the very slipshod way honey and wax are put on the market, and also the management of the bees. It cannot be expected that the best can be made of the industry by keeping bees in old boxes and any receptacle that comes to hand. In the first place, the queen will lay in nearly all the combs, and the bee-keeper cannot possibly get his honey free from pollen and young brood in all stages of growth, and the same combs that have had brood in them should never be used to store honey. Then, again, when the bee-keeper takes toll from them, he often disturbs the hive to such a degree that

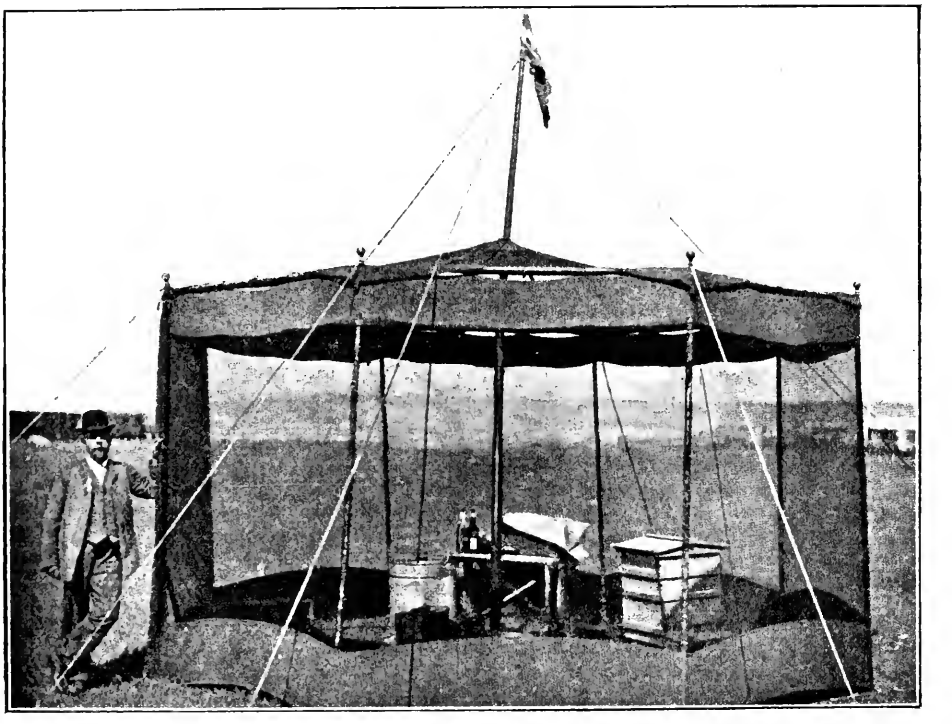
the bees leave the hive, or their work is so upset that it takes them some time and labour before they put things right again. But with the modern bar-frame hive all is so simple. The body-box is used for the queen to lay eggs and rear the young, and should never be used for surplus honey for the bee-keeper. The hive has a lift which takes shallow-frames for extracting purposes, or a crate of sections if comb honey is desired. The bee-keeper is thus able to take toll for himself without disturbing the bees in the bottom, and replace another crate of empty sections for them to refill. This can be done year after year, and in a good district bee-keeping will not only be profitable, but a great amount of pleasure can be extracted from the hobby.

Regarding the various hives put on the market, I say advisedly the English pattern is the best for this country. In my experience it is much handier to work and also larger. If there is one thing more than another that is against the industry, it is the perpetual swarming propensity. In England it was all right when you could get from ten to fifteen shillings for a swarm, but here they have very little monetary value, as wild swarms can be often had for the taking. Now, while you cannot always prevent them from swarming, you can in management mitigate it to a great extent by shading them from the hot sun and giving room in the hive by adding extra frames in the body-box and putting on extra crates of sections. This has been practised in England by some bee-keepers, and swarming has been reduced to a minimum.

We were pleased to see that the Government appointed a Committee to investigate and report on the industry.

Some discussion took place with regard to the best types of hives for use, and the best system of management to be followed. It was said that hives were to be had in Capetown at 15s. each (referring, no doubt, to the American hives). It was thought that hives could be made in this country by a carpenter, and that Government should help in some way towards their introduction. Regarding hives being made by a local carpenter, it cannot be done as cheaply as buying them from home, where they are cut out by machinery. The best method of introducing them (if they cannot be cut out here by machinery) is to import hives in the flat and put them together, as is already done with the American hive.

But what the Committee recommended the Port Elizabeth Agricultural Society was already doing, by having made in England an up-to-date bee-tent of the most approved kind for lectures and de-



BEE-TENT OF THE PORT ELIZABETH AGRICULTURAL SOCIETY, SOUTH AFRICA.

monstrations with live bees, shown in photo enclosed, along with hives of the best type for illustrating the best way of benefiting the industry here.

Regarding the disease of foul brood in bees, it was thought that the importation of bees from countries where the disease existed was fraught with danger, and some steps should be taken for imported stock being examined. We some time ago sent to the Government on this important question, but the Committee appeared in the dark as to this also.

In reviewing the report, several things stand out very prominent—namely, the very unsatisfactory state of the industry, the splendid market we have at our doors, and in some districts at least the abundance of honey-producing flowers. In winding up, the Committee think (1) that the industry would become a source of prosperity; (2) that the bulk of honey is produced under crude and old-time methods, consequently prices are low and the quality unsatisfactory; (3) they recommend demonstrations at agricultural shows, lectures on farms by practical instructors, a pamphlet printed in Dutch and English and issued at cost price by the Government, and a course of instruction at Elsenburg College; and they also urge that some legislation should be passed to restrict the introduction of bees and the probable introduction of foul brood. They further recommend that Government should prepare comb-foundation from the wax gathered here, and supply the same to bee-keepers at a reasonable profit.—J. Martin, Wagon Drift Farm, Perseverance Station, District Uitenage, South Africa.

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. Macdonald, Banff.

Tiering Up.—The author of the "Guide Book" is a strong advocate of this system. The editor of the American *Review* contributes an article to *Gleanings*, which Mr. Root trusts every extracted-honey producer will read carefully. I give one paragraph:—"There must be an abundance of empty combs and supers so that the bee-keeper may add additional ones whenever necessary. These supers cost something of course, but they have to be bought only once. There is no attempt to extract the honey during harvest. All of this bustle and hustle and hurry and worry to extract in time to give the bees room during the harvest is done away with. If a colony needs more room, simply give more supers of comb. This is a quick operation. The principal features of the plan are plenty of combs and supers, the use of bee-escapes, and artificial heat in extracting at the end of the season." For the busy business man, the man much from home, or the farmer with other duties engaging his attention in the busy season, this plan is the very best that can be followed. Two or three very important ends are obtained—swarming is practically controlled, very powerful colonies are secured if the best management is practised, and honey is beautifully ripened. For out-apiaries seldom visited it is the one yielding the best return for the least expenditure of time and money.

Changing Sites.—The *American Bee-keeper* quotes from a German source the following:—"If it should be necessary to change a colony to a new location make the change in the evening. The colony is liberally fed at once and for several days thereafter. The activity and the odour arising from the feeding attract the outgoing bees, and this leads them back to their home, so that few will be lost." It seems to me there may be something in the idea. Changing short distances is, however, a risky performance in May and June, particularly if the hive has formerly been on a clearly marked site, and changing to a different style of hive still further complicates matters more than one would credit. I know because I experimented in this line lately.

Cheap Queens.—Here is food for thought. Mr. Hand, in the *American Bee-keeper* (page 91), goes for "artificial" queen-rearers:—"Cheap-jack methods of queen-rearing employed by the average queen-breeder are the bane of modern apiculture. The whole process is poor economy, and must result in poorly-developed and short-lived queens. The wholesale transferring of larvæ, as well as the caging of virgin queens, compelling them to subsist on candy in a hostile colony where they are worried and maimed, is poor economy." Mr. Hand works shallow-bodies and rears his new queens above excluder-zinc in the upper bodies, and as he seldom handles frames, but manipulates only sections (or bodies) of the hive, he does not fuss with transferring or artificial queen-cups.

Australian Prices.—Prime clear lots of honey are on offer at 2½d. to 3d. per lb.; medium to good sells at 1¾d. upwards; prime clear wax is quoted at 1s. 2d., and for medium lots sellers are accepting down to 1s. It is to be hoped it will be long before such prices, quoted in the *Australian Bee Bulletin*, rule in this country. Undoubtedly sellers should hold out for a good price this year, as honey will be scarce even with a good season, for the simple reason that stocks are very greatly reduced in number all over the three kingdoms.

Forming Nuclei.—Mr. J. P. Moore, a

well-known queen-rearer, says in the *Review*:—"The easiest and quickest way to form nuclei is to go to an out-apiary with a load of nucleus-boxes, each containing a frame of honey and an empty comb. Then take one frame of brood and one frame of honey from the selected hive, with adhering bees, and place them in a nucleus-box. Return the other frames into the vacant space. The beauty of it is every bee stays wherever it is put when taken to the home-apiary." The hint is good, and often acted on in this country. Almost any bee-keeper can arrange for the use of a vacant piece of ground two or more miles from the home-apiary, and remove the two frames from the home to this out apiary. In the same way every bee stays where it is planted down, and queens are more likely to mate truly and surely where selected drones can be supplied and where the nucleus lots can be arranged on well-marked sites fairly far apart.

Granulated Honey.—This is much in evidence this spring. Here is Dr. Miller's plan for clearing it out of combs:—"Spread the combs flat on the ground where the sun will not melt them, and as the bees lick them dry sprinkle them with water from a watering-can. But, unless used for brood-rearing alone, I fear the honey would soon be candied again." The editor of *Gleanings* has been experimenting in liquefying comb-honey in an incubator. The combs and cappings were intact, yet the once solid mass had been changed into a liquid. "We are satisfied that a comparatively small room having a number of hot-water pipes could liquefy a car-load of honey at a time," and he adds:—"Candied comb-honey so treated is delicious. The honey is thick and waxy and as clear as it was the day it was gathered by the bees. The flavour is in no way impaired, and the comb surface seems to be as perfect as when the bees left it." Home experimenters might try it and kindly report results.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 30 to July 4, at Newcastle (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. **Entries closed.**

July 16 and 17, at Sleaford.—Show of Honey, Hives, and Bee-Appliances in connection with the Lincs Agricultural Society. Bee-Department under management of the Lincs B.K.A. Fourteen classes. Liberal money prizes and silver medals. **Entries closed.**

July 22 and 23, at Burslem.—Annual Show of the Staffs B.K.A., in conjunction with the Staffs Agricultural Society. Liberal prizes. Five open classes, including one for single 1-lb. Section and single 1-lb. Jar. Schedules from Joseph Tinsley, Chebsey, near Stafford. **Entries finally close July 11.**

July 22 and 23, at Cardiff.—Annual Show of the Glamorgan B.K.A., in connection with the Cardiff and County Horticultural Society. Members', Novices', and Open Classes. Substantial money prizes. Schedules from W. Wiltshire, Assist. Hon. Sec., Maindy Schools, Cardiff. **Entries close July 16.**

July 29, at Henbury, near Bristol.—Annual Show of Honey and Wax of the Henbury District B.K.A., in connection with the Horticultural Society's Exhibition. Good prizes. 7 open classes, including free entry for single section and single bottle. Schedules of Hon. Sec., F. E. May, Bellasis, Stoke Park, Westbury-on-Trym, Bristol. **Entries close July 22.**

July 30, 31, and August 1 and 3, at Manchester.—Annual Show of the Royal Lancashire Agricultural Society. Liberal money-prizes are offered for honey along with silver and bronze medals of the B.K.A. and also of the Society. Open classes for Honey-Trophy, Sections, Extracted Honey, Beeswax, Honey-Confectionery, Bee-Flowers, Instructive Exhibits in Bee-Culture, &c. Schedules from Edward Bohane, Secretary, Miller Arcade, Preston. **Entries finally close June 27.**

August 3 (Bank Holiday), at Clewer, Windsor.—Show of Honey and Appliances by the Windsor Branch Berks. B.K.A., in conjunction with the Clewer Horticultural Society. Schedules from Hon. Sec., Mrs. W. S. Darby, 1, Consort Villas, Clewer, Berks. **Entries close July 29.**

August 5 to 7, at Halifax.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. Schedules and form of entry from John Maughan, Secretary, Blake Street, York. **Entries close June 27.**

August 6, at Madresfield, Malvern.—Annual Show of the Worcestershire B.K.A. Open class for 12 1-lb. jars Extracted Honey. Entry forms and schedules from Geo. Richings, 2, Shrubbery-terrace, Worcester.

August 12, at Wye (Kent Honey Show).—Five Open Classes: Trophy, cup value £3 3s. (entry 1s.), 1 lb. Section, 1 lb. Light Run, 1 lb. Dark Run, 20s., 10s., 5s. in each case (entry free); Beginner's Outfit, to retail 30s. (entry free). Fifteen Classes open to Kent: Two Challenge Cups, value £6 6s., and money prizes for 6 1-lb. Sections and 6 1-lb. Jars Extracted Honey. Money prizes for 6 Jars Light, 6 Jars Medium, 6 Jars Dark Extracted Honey, 2 Shallow or Standard Frames, 3 Sections and 3 Jars, 1 Jar Granulated, Beeswax, Mead, Candy, Cake Sweetened with Honey, Display of Cut Flowers, &c.; two Special Classes for Cottagers. Schedules of J. Tippen, Secretary, Wye, Kent. **Entries close August 5.**

August 12 and 13, in The Park, Taunton.—Somerset B.K.A. Annual Show, in conjunction with that of the Taunton Deane Horticultural Society. Increased Prizes. Sixteen classes, including eight open and two free. Schedules from L. E. Snelgrove, Hon. Sec., Cromla, Locking Road, Weston-super-Mare. **Entries close August 7.**

August 19, at Lancaster.—Honey Show and Bee Demonstration, &c., in connection with the Lancaster Agricultural Society's Show. Open classes. Special prize, including silver challenge cup, value £6 10s., seven silver and bronze medals, &c. Schedules from Thos. Armistead and Son, auctioneers, Lancaster. **Entries close August 5.**

August 19 and 20, at Shrewsbury.—Annual Show of the Shropshire Bee-keepers' Association will be held in the Quarry, Shrewsbury, in connection with the Shropshire Horticultural Society's Great Floral Fête. Eight Open Classes for Honey. Free Entry for Single Bottle and Single Section. Schedules from S. Cartwright, Hon. Secretary, Shawbury, Shrewsbury. **Entries close August 7.**

August 20, at Abingdon Park, Northampton.—Honey Show of the Northants B.K.A. Special prizes for open classes, including one for single 1-lb. jar honey. (**Entry free.**) Prizes 20s., 10s.,

7s. 6d., and 2s. 6d. Schedules from R. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 16.**

August 26 and 27, at Solihull.—Show of Honey, Hives, and Appliances, in connection with the Warwickshire Agricultural Society. Schedules from J. N. Bower, Hon. Sec., Knowle, Warwickshire.

September 5 to 12, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Trades' Sixteenth Annual Exhibition and Market. (See large advertisement on page iii.) **Open to all British Bee-keepers.** Entry fee in each class 1s. Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 19 to 26, at the Agricultural Hall, London.—Honey Show in connection with the Sixteenth Annual Exhibition and Market of the Grocery and Kindred Trades. (See large advertisement on page iii.) Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.** Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

Queries and Replies.

[3733.] *Ownership in Swarms.*—I am a beginner with bees, and a subscriber to the B.B.J. I should like to ask your advice on the following question:—One of my hives swarmed at the end of May, and the bees clustered in my neighbour's garden, and on my proceeding to take possession of the swarm, he objected, saying I had no right to touch them. However, I persisted in having what I knew to be my own, and accordingly hived the bees and carried them off. My neighbour said if he had known it he would have got a pitchfork and smashed the cluster of bees, and destroyed them. My question therefore is, Has my neighbour any right to claim a swarm that happens to cluster in his garden, so long as I am sure the bees are mine? Perhaps you would give some information as to the law on the subject in next issue of the B.B.J., which I find very useful, as I also do the "Guide Book."—Thos. Crowe, Essex, June 10.

Reply.—The law of ownership in swarms (according to Blackstone) is that if the owner of the swarm, or someone representing him, sees the bees issue from the hive, and does not lose sight of them till they have settled—or, as the term runs, "clustered"—he can follow the bees on to another man's property, claim the swarm, and be allowed to secure the bees and carry them off. On the other hand, if the bee-keeper does any unnecessary damage in securing the bees, the injured party would have a claim for damage to property, the bee-keeper having also a legal claim against a neighbour if the latter wilfully destroys or damages the swarm.

[3734.] *Getting Rid of Superfluous Drones.*—I am greatly interested in my only two stocks of bees; am new to bee-keeping, and my limited knowledge has been gained from the "Guide Book" and the B.B.J. May I therefore ask for a little information on the following: 1. The first is a stock of hybrids, and they appear to have a fair number of drones. When examining this hive yesterday I saw some drone-cells capped, and noticed that the workers were attacking the drones. I have also noticed during the last few days workers hustling and pushing out the drones as if trying to kill them, but even with two or three workers fastened on to one they invariably break away in the struggle and get back to hive. This looks as if the bees wanted to clear out the drones altogether; and so I ask: Should they be left to fight it out among themselves, or should I do anything to assist the bees in getting rid of these undesirables? 2. A stock of pure-bred "Goldens" have got rid of a great lot of drones during the last week; and the latter make no fight in their own defence: they crawl out quite feebly and die, either through being deprived of food or they are naturally weak. The frames in this hive are spaced for worker-brood at 1⅛ in. distance apart. Am I doing right in keeping to this spacing? 3. Is it in any way detrimental to breeding? as it is stated on page 47 of the "Guide Book" that "great care must be taken to return to the wider spacing when combs are built out." I may say all the combs are worked out in the hive in question. I shall feel greatly obliged for your advice and help. I add a line in conclusion to say I only want honey and no increase of stocks. I enclose my card, and sign—Aphis, Barnes, S.W., June 22.

Reply.—1. If there are superfluous drones in the hive, the sooner they are got rid of the better; and if the bees are getting rid of the drones as stated, let them do so. You may depend on it the drones won't show fight; they merely try to escape from their persecutors, and in the end are driven out, and die off from want of food. 2. There must be some mistake here. If full sheets of worker-cell foundation are given to bees no drone-cells will be built, and consequently no drone-brood reared in them. 3. The instructions given in "Guide Book" are correct; therefore when the combs are partly built out, the alternate metal ends are pushed home, and the wider spacing remains permanent.

[3735.] *Non-Swarming Hives.*—1. I have two strong colonies of English bees, one headed by an English queen and the other by an Italian. Each hive has a non-swarming chamber beneath the body-box, and I have, within the past few days, given each a rack of sections both below and above the brood-chamber. The bees have begun to work in the sections, but in very small numbers and in a desultory manner. Yesterday afternoon the hive with the English queen had many hundreds of bees flying round the hive and clustering at the entrance, although it was open about 12 in. I opened the entrance to its full width, and in half an hour the bees had quieted down, and are quite normal to-day. This afternoon the bees in the second hive have done exactly the same, and I noticed that the flying bees were nearly all recently-hatched Italians. I only introduced the Italian queen on May 16, and the resultant brood has been hatching out since the 9th inst. I never saw any of the young Italians flying until to-day. It is stated in the "Guide Book" that "young bees do not fly till the fourteenth day after hatching." Can you kindly say to what this unusually early flying is attributable? Is it the forerunner of swarming, or the first flight of a large batch of recently-hatched bees merely taking their bearings? 2. This morning I found a number of bees (English) on a clump of laurels, each sucking something from the part just adjoining the midrib at the back of a young leaf. I picked some leaves, and found something like honey-dew in one spot on each. I enclose a few leaves, and shall be glad of your opinion. Name sent for reference. —Inquirer, Dulwich, June 22.

Reply.—1. Without knowing what form of "non-swarming hive" you refer to, it is safe to say that you have made a mistake in giving racks of sections below the body-boxes of the hives as well as above in order to prevent swarming. The ordinary object of a non-swarming hive is to give a box of shallow-frames below the brood-chamber in order that the bees, in their desire to extend their combs downwards in giving the queen more room for ovipositing, may begin work in the shallow-combs, and when they have partly drawn-out

the combs, but before the queen has begun laying in the cells, the shallow-comb box, bees and all, is removed and placed above the top-bars of the brood-chamber, and thus the bees are started storing in the shallow-combs instead of swarming. The fact of the young bees flying in great numbers round the hive, as stated, for a short time, as if going to swarm, is simply a "playing flight." Such is quite common in summer. The baby bees come out for a strengthening flight before they are strong enough to go out foraging. It is the same in each instance. 2. Bees are often seen busily at work on laurel leaves at times; they are gathering the sweet juices exuding from small nectaries on the under-side of the leaf, as will be seen if examined. The nectar thus obtained is not of good quality, but does for bee-food.

[3736.] *Bees Refusing to Work in Sections.*—Can you oblige me with a little help in the following difficulties? 1. I have a stock of bees which fully covered ten frames some time ago; but I cannot get them to work in sections, although I have removed a couple of the frames and crowded them on eight. Not only so, but I took off the queen-excluder, though with no better result; in fact, the bees are blocking every cell in the body-box up with honey so that the queen has no room for egg-laying. 2. I hived a large swarm in a frame-hive four days ago, and the bees have drawn out eight frames of comb from foundation, and are also filling every cell up with honey, leaving the queen no room to lay, as with the first-named stock. 3. The bees of my third hive are also filling the cells up as fast as the brood hatches out. It is very hard to see this splendid bee-weather go by with acres of white clover in bloom, and not be able to secure some of it in sections, and I should be very grateful if you could advise me in this week's issue of our interesting little journal. Thanking you in advance, I send name for reference.—ANXIOUS, Kent, June 22.

REPLY.—1. If you could get some experienced bee-keeper near at hand to examine the hives referred to, we think he could explain why the bees persist in refusing to work in sections. We cannot possibly account for the trouble unless the foundation used is objectionable in some way to the bees. Our advice is to try them with a box of shallow-frames, and when these are filled put on the sections above them. 2 and 3. The above remarks apply equally to these queries, except to say how extremely rare it is to have bees refusing surplus-room in the manner stated, unless your method is in some way at fault, and we again advise your getting help from someone near you; or, failing this, extract the honey from the filled combs to give the queen egg-room.

[3737.] *Dealing with Diseased Stocks in Summer.*—I shall be glad if you will give me your opinion on the enclosed comb, taken from a hive which was my strongest last year. This season it is my worst stock, and I put it down to being queenless in the spring. I gave the bees a frame of eggs from another stock almost six weeks ago, not being able to find the queen or see either brood or eggs. I now find there are a few eggs and some brood, and after a long search I found a very lively queen, though somewhat small. The stock is very weak, and a bee-keeping friend says it is affected with foul brood, hence my asking your advice. I don't want to take up too much of your valuable time, and will only hope for a brief reply to the following questions: 1. Is the stock affected with foul brood? If diseased, is it in a mild, severe, or virulent form? 2. Can I save the stock by putting the bees into a new hive with new foundation and frames, and feed on medicated syrup? 3. Should I destroy the lot? I will be glad of your reply, as the hive stands between two healthy stocks—not more than 2 ft. from either—so that in a case of robbing I should lose the lot if it is foul brood. I would like to save the bees if possible, but, of course, they will be no good this year.—F. J. M., Stroud, June 20.

REPLY.—1. The bees are affected with foul brood, but not in virulent form. 2. We do not think it worth while trying to save a weak stock at this season. 3. We should avoid risk by burning the lot!

[3738.] *Bees Dwindling in March.*—Enclosed please find a few bees taken from a stock that came as a stray swarm in July, 1906, and settled in an empty hive in my garden. In 1907 they were so strong as to carry three supers, and in the third week in March this year there was brood on both sides of four standard frames and young bees hatching out. Since then, however, they have dwindled down to two or three hundred bees. A month or six weeks ago, when they seemed to be at the worst, they were continually cleaning themselves, until they became black and shiny like "robber-bees," and in flight they made a peculiar burring noise with a disinclination to enter the hive, and would at last settle down and die. They have the appearance of always being in pain, and make no attempt to sting when the hive is opened, but will start fanning either in or out of the hive. There are plenty of stores left from last back-end, no dysentery, and no fighting. I would feel very much obliged if you would tell me if it is likely to spread to the other stocks, and should the combs be burnt?—JOHN CAREY, Birkenhead, June 17.

REPLY.—The few bees sent (nine) are hybrid Carniolans. There is nothing whatever in their appearance to indicate cause of death; or even of the black shiny look noticeable in "robber-bees." In fact, the dead bees appear normal, just like the usual aged bees carried out in spring. If a small piece of comb containing dead brood is sent we may be able to help you; but we cannot explain the trouble from material at command.

[3739.] *Using Suspected Combs after Disinfecting.*—May I ask for replies to the following queries? 1. I have three hives more or less infected with foul brood, and a number of interchangeable brood-frames with no apparent trace of disease in them, but none free from suspicion. Can they be microscopically tested? If not, is it worth while to melt all old brood-frames down and give new foundation throughout, or can they be safely used for supering? 2. What is the strength of Izal solution for spraying combs and treating quilts, and is this method of treatment superior to formalin? 3. Will the proceedings of Thursday's Congress be published in B.B.J. or not?—R. H., Woodeaton, Oxon, June 22.

REPLY.—1. If the combs are dealt with as directed on page 197 of "Guide Book" (Recipe No. 8) they may be safely used again. There is no practical method of testing such combs by means of the microscope. 2. We do not advise Izal for disinfecting, and need not, therefore, compare it with other remedies. 3. We hope to have a report of the proceedings in the B.B.J.

Notices to Correspondents.

J. LONG (Whitchurch).—*Prevention of Swarming.*—The only methods of preventing swarming we know of are given in the "Guide Book" in the chapter on the subject. It is there stated (on page 21) that if bees once get the "swarming fever" no device of the bee-keeper will stop it. We cannot understand your case as stated, because if the bees were given plenty of room in April and are working well in supers it should only need proper ventilation to secure the desired object. We never knew experienced bee-keepers to fail in such a case.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

EXCHANGE KNITTING MACHINE and 2 Buff Orpington Cockerels for 3 good Swarms, or offer.—BUCKLAND, Crescent-road, Elmfield, Ryde, I.W. h 6

SWARMS WANTED, on Frames or "W. B. C." Hives. Exchange 5 Leghorn Hens and Cock, 1907 winners, or sell 30s.—BOOKER, Station-road, Shirebrook. h 7

"THE PREPARATION OF HONEY AND WAX FOR THE SHOW BENCH," post free 7d.—JOSEPH TINSLEY, Chebsey, near Stafford. h 24

BOOKS WANTED.—Cheshire's "Bees and Bee-keeping," 2 volumes, and any other books on Bee-keeping.—JOHN DAVIS, 13, Paternoster-row, London. h 4

QUEENS.—Choice Virgin Hybrids, Sladen's, Blacks, 1s. 7d.; also 2 1907 Hybrids, 2 Black fertile Queens, 2s.—J. SILVER, Croydon-grove, Croydon. h 16

FOR SALE, 5 strong Stocks, in good Bar-frame Hives, singly or in one lot.—MRS. DIXON, Kibblesworth, Gateshead-on-Tyne. h 3

FOR SALE, 10 1908 fertile English Queens, 2s. 9d., free.—ROUSE, Rochford, Tenbury. h 9

ITALIAN HYBRIDS, Virgins, prolific, gentle strain, 1s. 1d. each. Exchange.—FLUDDER, Alresford, Colchester. h 5

OFFERS WANTED, Clarionet, Case, and Music, suit string or military band. Sacrifice for healthy Bees, Queens, or cash. Approval.—78, Preston-road, South Yardley. h 8

100 SWARMS WANTED, for cash.—E. BENNETT, Heacham, Norfolk. h 11

HONEY WANTED IN BULK, must be guaranteed pure English Honey.—Apply to X. C. X., care of "Bee Journal." h 12

GRAY'S SHOW JAR, fine sample of white flint glass, fulfilling all requirements of the Show Bench, 3s. dozen, free on rail; sample, 6d., post free.—THE WHITE APIARY, Long Eaton e 84

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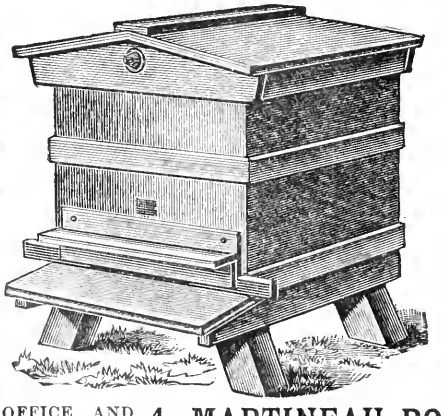

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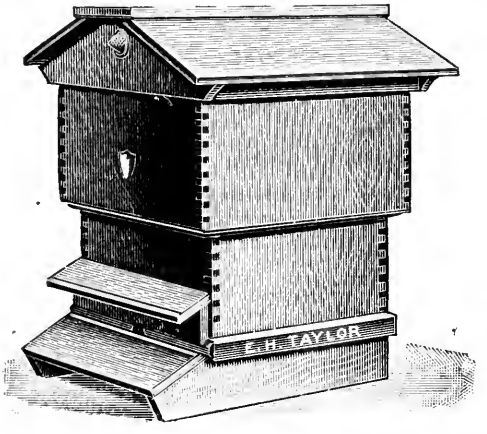

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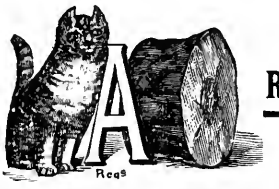

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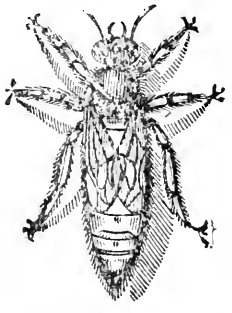

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ITS HISTORY, PRODUCTION, ADULTERATION, AND COMMERCIAL VALUE.

With 17 Plates and 37 Figures on Art Paper.

The most comprehensive work on the subject hitherto published. Of great use and interest to Bee-keepers and others connected with all industries to which pure beeswax is of importance.

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Editorial, Notices, &c.

FRANCO-BRITISH CONGRESS OF BEE-KEEPERS.

The Congress of Bee-keepers was held in the Congress Hall at the Franco-British Exhibition on June 25, under the presidency of Lord Avebury, P.C., F.R.S., when a distinguished company numbering over 250 assembled. Amongst those present were Lady Avebury and Mr. Maurice Lubbock, Lady Morris, General Sir Stanley Edwardes, M. E. Sevalle (Secrétaire de la Société d'Apiculture, Paris), M. Sevalle, *fils* (Paris), Major Norton (Commercial Agent for the South Australian Government), Mr. F. R. Beuhne (Victorian Apiarists' Association, Melbourne), Mr. P. G. Wickens (Perth, Western Australia), Mr. A. H. Benson (Queensland, Australia), Mr. H. C. Cameron (Produce Commissioner for New Zealand Government), Mr. A. Gracie (Cape Colony, South Africa), Mr. A. E. Balleine (representative of the Board of Agriculture and Fisheries), Mr. T. W. Cowan (chairman British Bee-keepers' Association), Mr. W. F. Reid (vice-chairman), Lieut.-Colonel H. J. O. Walker, Messrs. E. Garcke, W. Broughton Carr, A. G. Pugh, Thos. Bevan, J. B. Lamb, E. Walker, and G. H. Skevington, Misses M. E. Gayton and K. M. Hall (members of the Council), and Mr. E. H. Young (secretary); Colonel C. A. Maunsell, the Rev. H. R. Ellison (hon. secretary Kent B.K.A.), the Rev. G. Castleden, Messrs. A. Seth-Smith, chairman, and F. B. White, hon. secretary (Surrey B.K.A.), Geo. Hayes (hon. secretary Notts B.K.A.), A. W. Salmon (hon. secretary Suffolk B.K.A.), R. H. Coltman (hon. secretary Derbyshire B.K.A.), Stanley L. Wilton (Essex B.K.A.), S. Watts (hon. secretary Hunts B.K.A.), L. S. Crawshaw, J. Smallwood, G. W. Judge, H. J. Upton, J. A. Boswell (Bridge of Allan, N.B.), O. R. Frankenstein, E. P. Betts, W. J. Overs, W. Ward, W. Gee, G. S. Faunch, L. L. Goffin, E. H. Taylor, S. W. Abbott, Stephen S. Abbott, S. Allen, T. E. Whitelaw, B. W. Bell, G. Hulbert, J. H. Hall, T. N. Harrison, A. J. Fidler, W. S. Ellis, A. R. Moreton, W. Cole, F.L.S. (curator Essex Museum), A. E. Booth, A. E. Platford, J. Holdom, F. Bernau, W. Boxwell, J. N. Farrant, J. J. Cooper, C. T. Overton, A. H. Dearden, W. P. Meadows, A. Willnott, F. J. Bird (Somerset C.C.), H. Horsfield, G. W. Phillips, J. T. Moss, A. M. Peters, A. I. Anderson, R. J. Turner, L. C. Turner, B. Lomax, A. Richards, T. A. Roberts, W. Herrod, G. H. Sander, John Silver, J. Elliott (Jersey), F. Lloyd, W. H. Ransome, Smithurst, G. W. Bullamore, A. Capelin, W. Ringer, N. Anderson, H. J. Banks, A. E. Smith, W. T. Abbott, J. Wayman, R. J. Dangerfield, A. S. Payne, G. R. Bissett, R. H. Gill, W. T. Riddles, J. Richardson, W. Sole, L. Illingworth, Porter, H. J. Dutton, H. Bury, A. J. B. Rowlands, E. S. Mitchell-Innes (Edinburgh), E. Wormall, and G. H. Abbott; Mesdames Sander, Abbott, Chapman, Rainer, Ford, Walker, Fidler, Ellis, Gittins, Horsfield, Towers, Smithurst, and Levi; Misses B. M. Montague-Pollock (Cavalaire, Var, France), B. La Mothe, M. Millard, Swynnerton, Barter, Grover, J. H. Peters, P. Neate, R. E. Hopkins, Edna Thomas, Bartram, C. McLean, K. Steele, A. von Leth, R. Saunders, M. L. Gayton, A. Maclachlan, Betts, L. G. Hogg, J. H. Freeman, Smiler (3), E. Scott-Walker, Elliott, M. F. Murdoch, H. Morris, M. M. Young, and M. Porter. Mr. Randall Andrews (Messrs. Thos. Cook and Sons) acted as interpreter.

Lord Avebury, on rising to address the Congress, was cordially received, and his interesting and instructive speech was followed with the greatest attention by all present. His lordship said:—

As regards the practical management of bees, you gentlemen are most, perhaps all, more qualified to speak than I am, and I will therefore deal with bees from a somewhat different point of view.

The study of bees is no new subject. Aristotle gives a very interesting account of them. He not only commended their industry—which, indeed, is obvious enough—but observed, or at least mentions the interesting fact, that during one journey from the hive each bee keeps to one species of flower—an incident which required close observation, and was not mentioned by any other author so far as I know till it was also noticed by our countryman, Gould.

He also stated that a bee—I presume a queen—would live for six or even seven years. I am not aware whether this has been confirmed, but I do not doubt that he is correct, for I had myself a queen ant which lived to be fifteen years old. He commends the cleanliness of bees, and observes that they are "the only insect that never touches anything putrid."

This is scarcely accurate, but, generally speaking, his statements are careful and correct.

Aristotle has also the great merit that where he is in doubt he says so. No doubt he fell into the common error of supposing that the queen is a male, and this led to his difficulties about the reproduction of the species. All persons, he tells us, "are not agreed as to the generation of bees, for some say that they neither produce young nor have sexual

intercourse, but that they bring their young from other sources; and some say that they collect them from the flowers of the calyntrus, and others from the flower of the calamus. Others, again, say that they are found in the flowers of the olive, and produce this proof: that the swarms are most abundant when the olives are fertile. Other persons affirm that they collect the young of the drones from any of the substances we have named, but that the rulers (queens) produce the young of the bees."

Pliny, in the main, repeats what Aristotle had said, with, however, some amusing additions of his own. Among insects, he says, "the first rank, and our special admiration, ought, in justice, to be accorded to bees, which alone of all the insects have been created for the benefit of man. . . . They form their combs and collect wax, an article that is useful for a thousand purposes of life; they are patient of fatigue, toil at their labours, form themselves into political communities, hold councils together in private, elect chiefs in common, and, a thing that is the most remarkable of all, have their own code of morals. In addition to this, being, as they are, neither tame nor wild, so all-powerful is Nature that, from a creature so minute as to be nothing more hardly than the shadow of an animal, she has created a marvel beyond all comparison. What muscular power, what exertion of strength are we to put in comparison with such vast energy and such industry as theirs? What display of human genius, in a word, shall we compare with the reasoning powers manifested by them?"*

It is not surprising, he says, "that there have been persons who have made bees their exclusive study. Aristomachus of Soli, for instance, for fifty-eight years did nothing else."*

So much, and such long, devotion, however, led to but little result. Pliny, also like Aristotle, was much exercised about their mode of breeding, since he also regarded the queen as a king.

Many persons, he says, "have expressed an opinion that they must be produced from flowers, aptly and artistically arranged by Nature; while others, again, suppose that they are produced from an intercourse with the one which is to be found in every swarm, and is usually called the king. This one, they say, is the only male in the hive, and is endowed with such extraordinary proportions that it may not become exhausted in the performance of its duties."†

Bees he regarded as useful to man, not only as supplying honey, which before the days of sugar was, of course, more important even than now, but because "they often afford presages both of private and public interest."

The drones, he thought, were "a kind of imperfect bee," and he knew that they were killed in the autumn. He thought that the cells were hexagonal because bees have "six legs," "each foot having formed its own side." This is not more far-fetched than Netter's idea that the form is an echo of the mosaic vision of the compound eye. If their honey is taken from them he says they die of grief. "It*—the honey—is engendered from the air, mostly at the rising of the constellations, and more especially when Sirius is shining; never, however, before the rising of the Vergiliæ, and then just before daybreak. Whether it is that this liquid is the sweat of the heavens, or whether a saliva emanating from the stars, or a juice exuding from the air while purifying itself, would that it had been, when it comes to us, pure, limpid, and genuine, as it was when first it took its downward descent. But as it is, falling from so vast a height, attracting corruption in its passage, and tainted by the exhalations of the earth as it meets them, sucked, too, as it is from the trees and the herbage of the fields, and accumulated in the stomachs of the bees—for they cast it up again through the mouth—deteriorated besides by the juices of flowers, and then steeped within the hives and subjected to such repeated changes—still, in spite of all this, it affords us by its flavour a most exquisite pleasure, the result, no doubt, of its ethereal nature and origin. . . . The honey of the very finest flavour, and the least tainted by the leaves of trees, is that gathered from the foliage of the oak and linden and from reeds."

The real use of the honey in flowers, indeed, now seems so obvious that it is remarkable to see the various theories which were entertained on the subject. Patrick Blair thought it absorbed the pollen, and thus fertilised the ovary. Linnæus confessed his inability to solve the question. Other botanists considered that it was useless material thrown off in the progress of growth. Krunitz even thought he had observed that in meadows much visited by bees the plants were more healthy, but the inference he drew was that the honey, unless removed, was very injurious; that the bees were of use in carrying it off. Sprengel was the first to show that the real office of the honey is to attract insects, but his view was far from meeting with general consent, and even so lately as 1833 was altogether rejected by Kurr, who came to the conclusion that the secretion of honey is the result of developmental energy, which

* Pliny's "Natural History," Vol. III., page 5.
† Ibid., page 16.

* Pliny's "Natural History," Vol. III., page 11.

afterwards concentrates itself on the ovary.

But I must hurry on and leave the history of bees for the bees themselves. Few animals have been more studied, and yet how many unsolved problems still remain! I shall not attempt to deal with the management of bees or the important improvements of recent years. These I will leave to you gentlemen, who are such great authorities and experts. My own observations have been directed to their anatomy and habits, their senses and psychology.

On all these departments of the subject we have made immense progress since the times of Aristotle and Pliny, yet though what we know is very interesting, what we do not know is even more so.

That bees can touch, and taste, and smell is obvious enough, though how they do so is as little known as in our own case. The scent of flowers is generally supposed, and I think with reason, to serve as an attraction to insects. We can hardly doubt that bees possess the sense of smell, and probably with great delicacy. Nevertheless, my experiments led me to the conclusion that the sense is not very acute, and Forel, who knows ants better than, and bees as well as, anyone, is of the same opinion.*

They see, but how do they see? The organs of vision, as in most insects, are very complex and conspicuous. There are generally three eyes arranged in a triangle on the top of the head, and on each side a large compound eye containing sometimes more than 1,000 facets.

The ocelli or simple eyes probably see in the same manner as ours do. That is to say, the lens throws an image on the back of the eye, which we call the retina. In that case they would see everything reversed as we do. You are, of course, aware that in reality we see things upside down, though long practice has given us the right impression. The simple eye of insects, then, resembles ours in this respect. But how about the compound eyes? There are two theories as to the manner in which they see. One supposes that each facet acts as a separate eye. But some beetles have as many as 22,000 on each side. Many ants have 1,000; in fact, these, so far fortunate, insects realise the sonnet of Plato:

> Thou lookest on the stars, my love—
> Ah, would that I could be
> Yon starry skies, with thousand eyes,
> That I might look on thee!

But if the male ant sees 1,000 queens at once, even when only one is present, this would seem to be a bewildering privilege.

The prevailing opinion of entomologists is that each facet takes in one point of the field of view, so that, in fact, they see a sort of mosaic. This theory also, however, is open to serious difficulties. In those ants which have eyes with very few facets the vision must be very imperfect. Moreover, in this case the image would be direct, whereas that given by the ocelli is reversed, and you will agree with me that to have two eyes which see everything the right way up, and three in which everything is topsy-turvy, must be very confusing.

Exner, indeed, seems to have proved that under certain conditions the facets of a compound eye may give a single image, which he has even succeeded in photographing. The light is condensed to a luminous point at the base of each crystalline. The problem is, however, full of difficulty, and one of very many still remaining to be solved. The special use of the ocelli is by no means clear.

That they do see somehow is unquestionable. But how do things look to them? Are they privileged to enjoy the wonderful play of light which we call colour? Of course, it does not follow that because an animal can see, and perceive differences of form, it should also distinguish colours. It is a blessed thing that we can do so, but it is conceivable that they might all appear of one uniform tint.

I was, therefore, anxious to determine, if possible, by experiment whether bees could distinguish colours.

That bees possess the power of distinguishing colours is implied, of course, in the now generally-accepted views as to the origins of the colours of flowers, but had not been proved by direct experiment.

(Report continued next week.)

* See Mr. Yearsley's excellent translation of Forel's "Senses of Insects."

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

[7161.] *Supersedure Cells.*—I think it is universally acknowledged that in many ways these are models of what queen-cells should be. In no other cells and in no other way do the young larvæ receive so copious a supply of royal jelly. The resultant queens are therefore almost certain to be large, shapely, and very highly developed, the early attention thus assuring them the best chance of being prolific and long-lived. When the bee-keeper with-

draws a queen for any reason, it frequently happens that the most forward cells are occupied by larvæ which were too long hatched from the egg before being specially fed,· and under the swarming impulse the craving for a successor to the old queen engenders haste, agitation, and nervousness at times, so that the bees select an over-ripe grub; but when superseding every act is coolly and deliberately undertaken. Consequently the cell-building is superior, the feeding even lavish, and the queens large and vigorous. Of course, if the old queen is inferior matters may turn out differently, but that can be determined by the bee-keeper. If, however, the queen is known to be a good one, it may be worth while to preserve as many of these cells as possible. Following the dictates of Nature, the bees will faithfully do their duty, and evolve a result equal, if not superior, to anything secured by man with all the best means and appliances modern invention has furnished him with.

Comb or Extracted Honey?—Perhaps the chief determining cause deciding most of us in selecting which of these we will work for is the class which sells readiest. Another important consideration with many is the fact that with extracting the swarming impulse can be practically controlled, as thereby the busy man is saved much worry. By tiering up, too, he can carry on the pastime with little labour and less exacting attention to the bees. The keeping quality of extracted honey is another deciding cause, while it packs better and travels safer than the brittle comb. Bees more readily take to supers of drawn-out shallow-comb, so that at least some surplus is more certain, even in a poor flow and with a medium stock of bees. Securing comb-honey is more of an art. Rousing colonies are a necessity if the best results are to follow, so management takes a higher rank in working for sections. This with many would weigh in favour of comb; with others it might kick the balance on the other side. Although less honey is obtained (the ratio is perhaps something like 70 per cent.), the price in general is higher, while comb-honey finds a quicker and readier sale. Altogether, everything considered, my impression is decidedly in favour of the contention that profits are about equal for both classes. Therefore I end as I began, and think we may allow that what sells best in the particular locality is the best kind to work for.

Dwindlers. — Generally, when spring dwindling is over-prevalent bee-doctors set it down to the retention of an old queen past her best. Of course, this is an important point which should not be overlooked, as such queens cease ovipositing early in autumn, and are generally slower in making a start in spring. The inevitable follows: too many old bees, with too small a proportion of young ones, make it a dead certainty that the stock will fall off in numbers in April and May. But this year old and young have about suffered alike, *i.e.*, queens in contiguous hives, bred in 1907, 1906, and 1905, all showed poor results. I am therefore constrained to seek another cause, and it has been forcibly obtruded on my attention that in the wretched season we experienced last autumn lies the primary cause. Honey has granulated as I never saw it do before. In that condition it cannot be sound or healthy food. Then I think it contains an abnormal amount of pollen-grains. Further, owing to the excessive cold and wet weather, it seems otherwise not to be of the same keeping quality. It may also be worth noting that driven bees mainly syrup-fed did well. Under the circumstances this year weaklings were not joined on as is so often advised, but kept on to work up into good, or fairly good, stocks for the heather. They will receive no extra care, as they have good queens and ample stores. Special mention of further causes for empty hives will follow.

Age of Combs.—It has been contended that comb twenty years old has given results equal to that in use only two or three years, and I have seen skeps long ago sending out very powerful swarms, which goes far to prove it true. Granting this, I am still an advocate of periodically renewing comb under modern management. All defective combs should be weeded out yearly irrespective of age. Fresh combs give a better chance of combating disease and holding it at bay. My chief reason, however, for pleading for renewing is that a better class of section-honey can be obtained with fresh, sweet, "young" combs. Nowhere else can finer sections be secured than in supers over a swarm. Something, of course, has to be credited to the vigour and energy with which such a colony labours, but a good deal of the beauty and finish—the snowy whiteness of capping and the general show-bench appearance of the completed article—depends on the freshness and newness of the comb contained in the brood-nest. Consequently, when working for comb-honey endeavour to renew the brood-combs, gradually eliminating all getting black with age.—D. M. M., Banff.

A NOVEL BEE-GARDEN.

[7162.] Having been a member of the British Bee-keepers' Association and a reader of the BEE JOURNAL for some time, I have seen in your paper pictures of the apiaries of your readers, and, being in-

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BY

T. W. COWAN, F.L.S., F.G.S., F.R.M.S., F.E.S., &c.

Chairman British Bee-keepers' Association, Editor "British Bee Journal," Author of "The British Bee-keepers' Guide Book," "The Honey Bee: Its Natural History, Anatomy, and Physiology," "Foul Brood and Its Treatment," "British Bee-keeper's Note-Book," "Bees and Their Management," "Wintering Bees," "Doubling and Storifying," "How to Make an Extractor and Bellows Smoker," &c.; Member of the British Association for the Advancement of Science, Honorary Member of several Bee-keepers' Associations in Europe and America, &c., &c.

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EXTRACT FROM PREFACE.

BEES-WAX is an important article of commerce, large quantities being annually imported into this country for use in the manufacture of the finest candles, also by soap-makers, and chemists in various preparations. But beyond these requirements, the extension of bee-keeping on modern methods has created a yearly demand for thousands of tons of pure wax in the production of comb-foundation for the use of bee-keepers.

From the very earliest ages, too, the manufacture of candles, figures and flowers from bees-wax was known to the ancient Egyptians, Romans and Greeks, and I have therefore thought it well to give a historical outline of the subject, followed by separate chapters on the production of wax, its uses in commerce and manufactures.

The introduction of vegetable and mineral waxes in recent years having caused these to be used extensively for adulterating bees-wax, I have treated this part of the subject at considerable length, giving detailed descriptions of these waxes, with their several characteristics, so that fraud may easily be detected.

Some of the illustrations have been drawn or photographed expressly for this book, and others, alluded to in the historical chapter, have been reproduced from old engravings in my possession, which I hope will prove interesting.

This work is the result of notes and information collected during the last forty years, and I believe covers the ground more completely than any other book on the subject hitherto produced.

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CHAPTER XI.—Technical Uses of Wax.

One hundred and ten practical recipes in which wax forms an ingredient, there being in some the choice of several recipes.

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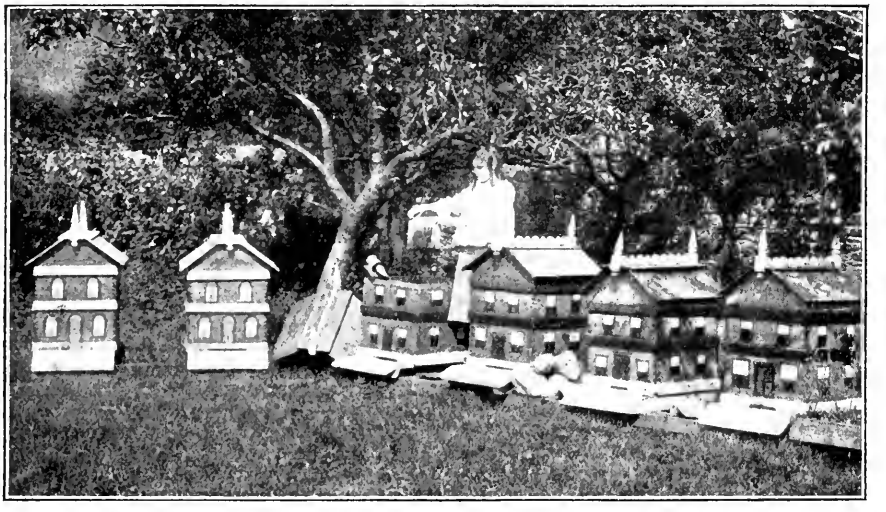
terested in such, thought I would like you to see mine, and if you choose you can let the readers of the journal see it also. Of course it is not so large as some, but with my eight hives I have had a varied experience, and, like other bee-keepers, have had to take the "bitter with the sweet." I might say I have been severely stung. One instance was when putting a swarm into a skep, for while doing so I had the misfortune to let the skep and bees fall. This, of course, infuriated the bees, and at this time I received thirty-two stings on one leg. This happened in 1907, but I did not give up my hobby, and since then my bees and I have been good friends, though I still get a slight sting now and again. I would now like to ask a question. On June 20 one of my hives swarmed, and, after hiving this swarm in a skep, I brought them from the tree in the garden where they had clustered, and threw them out on a white cloth, caught the queen, and took it away from the bees. I then put the bees back into the house they came from, but to my surprise they came out again next day. I had before this destroyed the queen, so, after putting them into a hive by themselves, I examined the hive from which they came to see if there was a queen left. Seeing none, I particularly examined the frames and found four or five queen-cells. I now wish to inquire—Did I do right by removing this frame with the queen-cells and giving it to the swarm?—(Miss) GERTRUDE TODD, Ghyll House, Oughterside.

[Without further details we can only suppose that the hive had already swarmed unseen several days prior to the 20th ult., and that the queen had met with some mishap and was lost. The bees would then return to the parent hive, and eight or nine days later would swarm again headed by the first young queen that hatched out after the mother bee had gone. It was, therefore, a mistake to give all the queen-cells to the swarm, because the parent hive will be queenless and without the means of raising one. If, on the other hand, there were more queen-cells remaining, all will go on well.

We must congratulate our young friend on her perseverance in the face of troubles from stings, which will no doubt disappear as she gains experience. With regard to her little apiary it can claim first place in our bee-garden pictures for originality, having more the appearance of suburban villadom than a collection of "bee-hives." Miss Todd's bees ought to feel quite aristocrats in the bee-world with such charming houses to dwell in, and we hope they will show their appreciation by rewarding her with a good harvest of honey.—EDS.]



MISS GERTRUDE TODD'S APIARY, OUGHTERSIDE, CUMBERLAND.

CURIOUS SWARMING INCIDENTS.

[7163.] On June 22 I bought a swarm, intending to join it to a queenless stock, but left it in its box in the bee-house, as it was then too late to hive it. Next day, on visiting the apiary, the first thing I saw was a swarm hanging on a hawthorn, which I immediately hived, and then I noticed that the queenless stock had suddenly become very strong. On examining it to discover the cause, I found that another swarm had taken possession and crowded on the ten frames!

On looking over the bought swarm I thought they seemed hot in their box, so decided to hive them at once, and, having prepared a hive, I shook the bees on to a sheet in the usual manner. A few began to run in, but after the queen had entered the rest of the swarm suddenly rose up and settled in a hawthorn bush about 15 ft. above the ground. The queen then rushed out of the hive and joined them. With the help of a ladder I got the swarm down and safely hived it, but, having promised to put a swarm in order for a lady, had to leave it for a while. On opening the door of my bee-house on my return I found thousands of bees flying about inside. After they had quieted down somewhat, I discovered that a swarm had evidently entered the hut under the roof and had hived itself in a body-box on ten frames of ½-in. starters! There were no quilts, but a large brown-paper sugar-bag lay on the frames, under which was the swarm!—which I carried outside and hived at once. Next day I reached the apiary just in time to see another swarm circling over the trees near my apiary, and it settled in the topmost branches of a lime-tree.

I used to collect birds' eggs when a boy, and have climbed many a tree after hawks', carrion crows', and magpies' nests, so my experience now came in useful. After preparing a skep and sheet underneath, up the tree I went, and found the swarm hanging in two clusters about 40 ft. above the ground! Holding the bough with one hand, I cut it off with the other, clinging to the branches with my legs, and carried the swarm to the ground, then shook it into the skep, but as I could not see the queen I climbed up the tree again for the other cluster, which I cut off and brought down in a similar manner. This time I was more successful, as the queen was with this lot, and later on I ran them contentedly into another queenless stock. Next day when I looked at this swarm, although they were flying freely they seemed restless, and kept running and looking over the edge of their alighting-board. Fearing from their manner that their queen might have been lost—although I gave her a frame of brood and saw her enter—I looked under the hive, and found another swarm hanging from the floor-board to the ground. The bees had built nine combs, each as large as my hand. Now here comes the folly of having various-sized hives in one's apiary, for I now wished to move the hive on to another floor-board, so that I could operate on the hanging swarm from the rear, but, having no floor-board to fit the body, I had to transfer it; which in this case I did not so much mind, as it gave me an opportunity of finding fresh-laid eggs. I cut the combs away and ran the bees into a body-box filled with drawn-out combs on the ground, and both swarms soon settled down, but one lot is still on the top of the other as before. I should mention that I usually work on the "Alexander" system, and have not been troubled with swarms for the past three years, but this season my stocks were in such an unequal condition—some queenless and none too strong—that they seemed scarcely crowded enough to "Alexander." The hives were not full of brood when the sainfoin came into blossom; consequently the brood-nests are choked with honey, in spite of sections on top, and so bees swarm for want of breeding space. I have remedied this somewhat by inserting full sheets of comb-foundation and placing body-boxes of standard combs on top under the racks, with excluders over the lower story. I am determined not to be caught napping again, and shall return to the "Alexander" system, because I have already lost a swarm, which flew straight away to the combed hive of another bee-keeper, whose bees had died through his neglecting to feed them.

I hope that this report may not be too long for your readers, but such a succession of swarming vagaries may interest them if you have space, and at some future period I will, with your permission, report on the results I obtain from these swarms.

We are not usually troubled with swarms in this district. I know of an apiary of ten skeps which have never swarmed, and another of fourteen which have only sent out three swarms. Those which I have bought or had to do with have been very light in weight, quite good-looking swarms only scaling about 3 lb. I bought an apparently good swarm on June 6 for 9s. which only weighed 2½ lb. This was nearly at the rate of 4s. per lb.—EXPERT, Cheltenham.

Bee Shows to Come.

June 30 to July 4, at Newcastle (Royal Agricultural Society's Show).—Bee and Honey Section under the management of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A.

July 16 and 17, at Sleaford.—Show of Honey, Hives, and Bee-Appliances in connection with the Lincs Agricultural Society. Bee-Department under management of the Lincs B.K.A. Fourteen classes. Liberal money prizes and silver medals. **Entries closed.**

July 22, at Nether Wallop.—In connection with the Horticultural Show. Open classes for Honey: Best 1-lb. Jar Extracted, Best 1-lb. Section. Schedules from Pryce E. Roberts, Schoolhouse, Nether Wallop, Stockbridge. **Entries close July 15.**

July 22 and 23, at Burslem.—Annual Show of the Staffs B.K.A., in conjunction with the Staffs Agricultural Society. Liberal prizes. Five open classes, including one for single 1-lb. Section and single 1-lb. Jar. Schedules from Joseph Tins-

ley, Chebsey, near Stafford. **Entries finally close July 11.**

July 22 and 23, at Cardiff.—Annual Show of the Glamorgan B.K.A., in connection with the Cardiff and County Horticultural Society. Members', Novices', and Open Classes. Substantial money prizes. Schedules from W. Wiltshire, Assist. Hon. Sec., Maindy Schools, Cardiff. **Entries close July 16.**

July 29, at Henbury, near Bristol.—Annual Show of Honey and Wax of the Henbury District B.K.A., in connection with the Horticultural Society's Exhibition. Good prizes. 7 open classes, including free entry for single section and single bottle. Schedules of Hon. Sec., F. E. May, Bellasis, Stoke Park, Westbury-on-Trym, Bristol. **Entries close July 22.**

July 30, 31, and August 1 and 3, at Manchester.—Annual Show of the Royal Lancashire Agricultural Society. Liberal money-prizes are offered for honey along with silver and bronze medals of the B.K.A. and also of the Society. Open classes for Honey-Trophy, Sections, Extracted Honey, Beeswax, Honey-Confectionery, Bee-Flowers, Instructive Exhibits in Bee-Culture, &c. **Entries closed.**

August 3 (Bank Holiday), at Clewer, Windsor.—Show of Honey and Appliances by the Windsor Branch Berks. B.K.A., in conjunction with the Clewer Horticultural Society. Schedules from Hon. Sec., Mrs. W. S. Darby, 1, Consort Villas, Clewer, Berks. **Entries close July 29.**

August 3 (Bank Holiday), at Cambridge.—Show of Bees and Honey. Championship Motor and Athletic Sports. Dogs, Cats, Mice, Flowers, Fruit, Vegetables, Poultry, Birds, &c. Fireworks by Pain; the largest and most attractive show outside London. Excursions from all parts. Prizes paid on day of Show. Schedules, Warren, 81, Richmond Road, Cambridge.

August 5 to 7, at Halifax.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. **Entries closed.**

August 6, at Madresfield, Malvern.—Annual Show of the Worcestershire B.K.A. Open class for 12 1-lb. jars Extracted Honey. Entry forms and schedules from Geo. Richings, 2, Shrubbery-terrace, Worcester.

August 12, at Wye (Kent Honey Show).—Five Open Classes: Trophy, cup value £3 3s. (entry 1s.), 1 lb. Section, 1 lb. Light Run, 1 lb. Dark Run, 20s., 10s., 5s. in each case (entry free); Beginner's Outfit, to retail 30s. (entry free). Fifteen Classes open to Kent: Two Challenge Cups, value £6 6s., and money prizes for 6 1-lb. Sections and 6 1-lb. Jars Extracted Honey. Money prizes for 6 Jars Light, 6 Jars Medium, 6 Jars Dark Extracted Honey, 2 Shallow or Standard Frames, 3 Sections and 3 Jars, 1 Jar Granulated, Beeswax, Mead, Candy, Cake Sweetened with Honey, Display of Cut Flowers, &c.; two Special Classes for Cottagers. Schedules of J. Tippen, Secretary, Wye, Kent. **Entries close August 5.**

August 12 and 13, in The Park, Taunton.—Somerset B.K.A. Annual Show, in conjunction with that of the Taunton Deane Horticultural Society. Increased Prizes. Sixteen classes, including eight open and two free. Schedules from L. E. Snelgrove, Hon. Sec., Cromla, Locking Road, Weston-super-Mare. **Entries close August 7.**

August 13, at Llangefni.—The County of Anglesey B.K.A. Honey Show. Prizes in Open Classes. Single Open Class for the best 6 1-lb. Jars of 1908 Honey, 10s. 6d.; entrance fee 1s. 6d. Two Classes, open to North Wales only, for the best and most attractive display of Honey and Honey Products, first prize £1 1s. second 10s. 6d.; entrance fee 2s. No second prize given unless three or more entries are made. Schedules from Rev. O. Kyffin Williams, Llangwyllog, North Wales. **Entries close July 25.**

August 19, at Lancaster.—Honey Show and Bee Demonstration, &c., in connection with the Lancaster Agricultural Society's Show. Open classes. Special prize, including silver challenge cup, value £6 10s., seven silver and bronze medals, &c. Schedules from Thos. Armistead and Son, auctioneers, Lancaster. **Entries close August 5.**

August 19 and 20, at Shrewsbury.—Annual Show of the Shropshire Bee-keepers' Association will be held in the Quarry, Shrewsbury, in connection with the Shropshire Horticultural Society's Great Floral Fête. Eight Open Classes for Honey. Free Entry for Single Bottle and Single Section. Schedules from S. Cartwright, Hon. Secretary, Shawbury, Shrewsbury. **Entries close August 7.**

August 20, at Abingdon Park, Northampton.—Honey Show of the Northants B.K.A. Special prizes for open classes, including one for single 1-lb. jar honey. (**Entry free.**) Prizes 20s., 10s., 7s. 6d., and 2s. 6d. Schedules from R. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 16.**

August 26, at Chester (Cheshire Agricultural Society's Show). — Bee and Honey Department, under management of the C.B.K.A. Open classes for Hives, Sections, and Extracted Honey. Increased prizes. Members' classes. District class. Special prizes offered by Chester Tradesmen's Association. Schedules from T. A. Beckett, St. Werburgh's chambers, Chester. **Entries close August 5.**

August 26 and 27, at Solihull, Warwickshire.—Show of Honey, Hives, and Appliances, in connection with the Warwickshire Agricultural Society. Schedules from J. N. Bower, Hon. Sec., Knowle, Warwickshire.

September 3, 4, and 5, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-six Classes (nine open to all). Increased Prizes and Medals. Schedules from F. B. White, Secretary, Marden House, Redhill, Surrey. **Entries close August 22.**

September 5 to 12, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Trades' Sixteenth Annual Exhibition and Market. (See large advertisement on page iii.) **Open to all British Bee-keepers.** Entry fee in each class 1s. Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 19 to 26, at the Agricultural Hall, London.—Honey Show in connection with the Sixteenth Annual Exhibition and Market of the Grocery and Kindred Trades. (See large advertisement on page iii.) Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.** Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

NOVELTIES FOR 1908.

ABBOTT'S PATENT HONEY-SPOON.

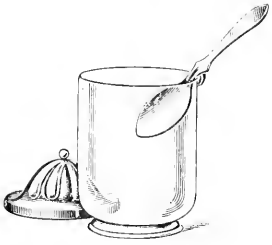
Messrs. Abbott Brothers, of Southall, have just patented a new honey-spoon, which we illustrate below, and for which they claim, amongst others, the following advantages:—

1. It is a great improvement upon all

other methods and devices designed with the object of preventing the spoon from falling down into the honey-jar and getting sticky all over the handle; for, while many inventions have been put upon the market with the ostensible object of achieving this end, they have mostly

been cumbersome appliances that fix on to the jar in a variety of inconvenient ways, but not one of them is as efficacious as the little hook which is stamped out of the back of this spoon, and by which it hangs on the top of the jar with almost automatic precision.

2. It is easy to use, for the handle of the spoon is always above the jar, and so your fingers never get sticky, while the honey, instead of lying in the bowl of the



spoon, drains back into the jar again, leaving the spoon clean and easy to use.

3. It is well made of nickel silver plated, or solid silver, and so cannot be affected by acids.

4. It is so cheap as to be within the reach of the most economic bee-keeper.

Queries and Replies.

[3740.] *Judging Disease by Smell Only.*—I shall be grateful if you will give me information in the B.B.J. on the following:—I noticed lately that from two of my hives a slight smell issued, and this is noticeable at night only. I have kept bees for three years, and have had no experience in disease, but I suspected foul brood, and took off the supers, and fear my suspicions are correct. A few cells look very much as described in the "Guide Book," but there is no appreciable smell from the combs, and it only seems faintly perceptible at night. The honey-flow is still on, and the supers are packed, and I have had one strong swarm from a suspected hive. No dead bees are being carried out, and the hives are very strong in bees. I should like to know:—1. Is it probable that my other hives will become affected? 2. Is it advisable to let the bees alone till the honey-flow is over, and then deal with them as described in the "Guide Book," or do so now? 3. Will the swarm from the suspected hive carry the disease with them? 4. Would it be of any use to spray the brood-combs with phenyle when shifting the supers, as a preliminary measure, and when such spray is applied, should it be warmed to avoid chilling brood?—H. W. C., Cornwall.

Reply.—Instead of replying to queries as enumerated, we may sum up the whole by saying that it is quite illusory to judge of foul brood from any peculiar odour noticeable as coming from the hive-entrance at this season. For instance, if black currant bushes are in flower, and bees working on the blossom, the peculiar smell is so perceptible at the hive-entrance after the day's work is over that we have known scores of bee-keepers who, like yourself, have at once come to a similar conclusion, viz., that the stock was diseased. Your best course is to go on as if there was no cause for alarm, and it is fairly safe to say that all will be found right when the stock is examined at the end of the season. If you would rather know at once whether there is any ground for your suspicions, cut a piece of comb out and send it to this office, when we will give you our opinion.

[3741.] *Suspected Loss of Queen.*—I am in a little dilemma with one of my hives of bees. I had a very large swarm, hived for me very kindly by a neighbour in my absence from home. On Saturday, June 20, I gave them syrup, and to-day looked through it, but am quite unable to see the queen, the bees are so thick upon five combs. There is a good deal of honey in the combs, but no brood, and a little pollen in one cell; one bee was carrying pollen, and I saw two or three drones. Do you think it likely from this there is a queen? I have tried hard to find her, but without success. My neighbour left word the swarm was all right. I thought of taking a comb with a queen-cell and brood out of another hive and placing in the new one, and ask:—1. Do you advise my taking this course? 2. Two of the combs, which were all new and bought a few weeks ago from a well-known bee-man, have tumbled down, and the wires have broken, and unfortunately only yesterday I sent for more, so they may do the same. Can you from my description of the state of the hive advise if there is a queen there, and, if so, ought she to have commenced brood-rearing? I have had since June 10 three large swarms from two hives—June 10, June 18, and June 20. You have been so kind in answering many questions of mine in your B.B.J., which I find very useful, I hope I am not troubling you too much.—Kutta, St. Asaph.

Reply.—1. There is no real cause for alarm with regard to safety of the queen because of a little delay in her beginning to start brood-rearing. The fact of pollen being carried in shows that breeding has begun, and we expect it will be found all right when next examined. 2. The broken-down combs should be removed if possible, but it may be best to defer doing this till the honey-flow is over, unless you could get help from an experienced man in removing them at once.

[3742.] *Suspected Disease in Drone-brood.*—The enclosed piece of comb was cut from an outside frame of a hive from which I have just taken off a well-filled rack of 1-lb. sections. Before giving another and similar rack, I thought I would extract the two outside combs of the brood-chamber, and on lifting the first one out I found on its inner face six or seven sealed drone-cells. Out of curiosity I opened two or three. In the first two cells the grubs were pearly-white, but the third was of a yellow colour, with a pinkish tinge or terra-cotta hue, and had a rather bad odour, but was not ropy. I examined several of the other frames, but could see no other cells like it. I did not make a very thorough examination, but so far as I could see there was no perforated cappings. Do you think it a case of foul brood? I have a copy of the "Guide Book," but any advice in addition which would suit perhaps this particular case would be much welcomed. There is no bad odour from the hive.—H., Devon.

Reply.—Comb sent contains only drone-brood and pollen; no worker-brood at all, and is consequently of no use in diagnosing disease. We must have a sample of dead worker-brood in cells before we can assist you.

[3743.] *Beginning Bee-keeping at the Wrong End.*—I should be obliged if you will reply to the following questions, as to-day I have been making artificial swarms, and in one hive I could not find the queen, but found several queen-cells, so I have put one frame of brood and bees into a new hive with a queen-cell open at the bottom, and a young one curled at the top of cell. In view of this may I ask:—1. Is the queen-cell what you call a ripe one? 2. Will the bees raise the queen from

this cell? 3. About how long will it be before it is fertilised? 4. Will it be fertilised with a drone from another hive? P.S.—I have put a new hive on old stand. Thanking you in anticipation.—J. G., Newton.

REPLY.—It would be of no service whatever to yourself for us to reply to the questions enumerated above. In other words, you are beginning bee-keeping at the wrong end, and without a reliable text-book to guide you no success can be hoped for. Before making artificial swarms, the operator must have some experience, and as you are good enough to candidly tell us how entirely ignorant you are of the process, we—in your own interest entirely—strongly advise you to buy a copy of the "Guide Book," wherein you will find every point on which you desire information fully explained and illustrated. In no other way can you hope to succeed.

[3744.] *Right Position for Queen-excluder.* — 1. Will you please be good enough to tell me which is the correct way to place the queen-excluder between the frames and the section-crate? Should the long holes in the zinc run across the tops of the frames, or parallel with them? I have seen it put on both ways. 2. Do you recommend the use of the excluder or not?—T. C. C., Egham.

REPLY.—1. The holes should run across the bee-spaces between top-bars, not parallel with them. 2. It is far better for beginners to use the queen-excluder.

Notices to Correspondents.

F. W. H. (Tipton St. John's).—*Bee-eating Spider.*—The spider forwarded for examination is an adult female specimen of *Misumena vatia*, Clerck. It is a common English flower spider, its colour varying from pale yellow to white. The Rev. O. Picard-Cambridge says of it in his "Spiders of Dorset":—"It may be found on various plants and flowers, in which it lies concealed both by the petals and other parts, as well as by its own similarity to them in colour. I have found the female very partial to the blooms of the great mullein (*Verbascum thapsus*), and have more than once seen it catch and kill a bee which had come to suck the honey from the flower."—F. W. L. S.

NOVICE (Potton).—*Suspected Loss of Queen.*—1. The bee sent is an ordinary worker, not a queen. 2. It is impossible to say how the wing became dislocated, as accidents often occur to workers when manipulating is being done, or from other causes. 3. All particulars as to bee-insurance can be had from Mr. Edwin Young, Secretary B.B.K.A., 12, Hanover Square, London, W.

W. B. (Wokingham).—*Uniting Bees.*—Since you have already got the bees off the suspected combs it is too late to advise a different course from that adopted, and so the bees may be united as proposed. But as most of the brood would have hatched out, and the trouble is not caused by the virulent type of disease, a serviceable lot of young bees might have been saved to do good service in honey-gathering.

NERO (West Derby).—*Bees Dwindling in Spring.*—There is no sign of dysentery about bees sent. It seems a case of "dwindling" caused by the low condition of health to which the stock has been reduced through the bad season last year. If the combs are clean and have no dead brood in cells we see no reason why they should not be used for a swarm. Are you aware of the fact that the queen (which looks like a virgin) was among the few dead bees sent?

INQUIRER (Dulwich).—*Preventing Swarming.*—The hive you have been working with has been specially designed for carrying out a method of preventing swarming which the designer believes will be effective. We have no personal experience of the method, and in consequence are not qualified to give an opinion on it. You should get a full description of its working from the maker, and get him to remove any difficulties you may find in its working.

A. MUNRO (Lochcarron, N.B.).—*Using Partly-filled Sections of Last Year.*—Such sections as you mention containing honey of last year will be useful as "baits" to coax the bees up into the rack, but it is not advisable to put them on the market for sale, as the honey will be more or less granulated, and would deteriorate the present season's produce. Those with only partially built-out combs and no honey may be used of course.

A. P. EASTO (Bournemouth).—*Candy Making.*—The sample is very good indeed in its present condition, beautifully smooth in grain and softness. The question is, Will it become hard in a few weeks? If not, it will be a perfect bee-candy.

P. W. S. J. (New Barnet).—*Wiring Foundation in Frames.*—1. It is quite certain that if the older plan of using thick foundation unwired was either safest or most economical the modern method of "wiring" and using would not have so completely supplanted the other both here and in America. 2. Without direct personal experience of your district, we think it should be a fairly good one for bees.

Suspected Combs.

BEGINNER (Enfield).—The sample contains drone-brood only, and this is of no use in diagnosing disease. If you can get a piece of worker-comb containing brood please send it, and we will let you know if it is affected with foul brood.

R. T. H. (Wanstead).—This is a bad case of foul brood, and should be treated as directed in "Guide Book."

T. B. (St. Albans).—Comb shows evidence of bees being greatly reduced in vitality through the late bad season; but they may recover in view of present good bee-weather. If they continue to dwindle in numbers, we should destroy what remains as being useless. There is no foul brood in comb.

W. S. H. (Hereford).—Sample sent is wholly drone-comb, and has no trace of brood in it at all. Combs such as one sent are useless in the hive, and should be melted down for wax.

DUMFRIES (Closeburn).—There is foul brood in comb sent, but it is a very mild type of the disease, and only in the incipient stage.

T. A. R. (Northants) and P. CREEK (Cambs).—There is disease in comb sent, but it is not *Bacillus alvei*. The reply to "Humble Bee" on page 250 last week applies to your case so far as regards the appearance of the dead brood in cells, your sample being affected in the same way.

INQUIRER. (Norwich).—There is no sign of disease in sample sent; in fact, no trace of brood at all. The comb has apparently been uncovered by bees for many months, and become mouldy and mildewed in consequence. But apart from this it is too old and black for use, and no good bee-keeper would have such combs in his hives on any account. You should either melt them down for wax or burn them.

A. M. (Broadway).—It is a pity so large a piece of comb was sent, seeing that if left in the hive nearly all the sealed brood would have hatched out. There is also an abundance of eggs and young larvæ in the cells; therefore it cannot be either a weak colony or a poor queen. We advise leaving the hive as it is for the next two months, and dealing with it afterwards according to the condition in which it is then found.

P. W. (Lanarkshire).—Both samples of comb are affected with the disease generally known here as black brood. It is quite different from the virulent form of disease recognised by the ropiness of the dead larvæ, and not nearly so destructive or difficult to cure. We should not destroy the stocks, but let them work the season and see how they appear at the close of the gathering-time. Then decide as to their future.

F. S. M. (Ringwood).—Above remarks apply to your case.

*** *"Cappings of Comb" and several letters and queries are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

BEE-KEEPING MADE EASY, Profit and Pleasure.—A New Hive, patented No. 16,631, '07; the problem of Swarm-catching conclusively solved, Bees confined in winter, instant confinement in summer, Drones caught and cleared, Fancy Drones kept for Mating purposes, Artificial Swarms at any time, supers cleared without smoke or carbolic. Price 30s.—For particulars and drawings enclose penny stamp to D. DAVIES (second-class expert), Abergwili, Carmarthenshire. h 38

G. C. BURGESS has Vacancy for single Pupil or two Friends desirous of learning Bee-keeping and Market-gardening.—The Willows and Rose Cottage Apiary, Wenden, Saffron Walden. h 31

CYCLE, Premier, lamp, and carrier, 35s., in use; a bargain to working Bee-keeper.—BURGESS, Wenden, Saffron Walden. h 30

SEVERAL SUPERS FULL DRAWN-OUT COMBS, 7s. 6d. each.—BECKENSALL, Stoneleigh, Christchurch-road, Pokesdown, Bournemouth. h 37

31 ST YEAR.—Queens, imported, Italians, Golden, Carniolans, 6s. 6d.; British or Hybrid, 3s. 6d.; 3-Frame Nuclei, any variety, Queens, Swarms.—E. WOODHAM, Clavering, Newport, Essex. h 29

4 STRONG SWARMS WANTED not less than 4 lb. Price on rail.—ARTHUR SMITH, Ivy Villa, Holme Church-lane, Beverley Hull. h 41

ROOM WANTED.—60-egg Dry Air Incubator, cheap, 35s., in perfect working order, very little used.—DAVIDSON, Beecroft, Basingstoke. h 40

FAULTY COMBS REPAIRED with Foundation Patches, also Designs in Comb worked out, by using "Nondescript Device," easy to make. Sample 6d., with directions.—W. PALMER, Gate House, Maghull, Liverpool. h 39

HEALTHY, VIGOROUS STOCKS, in good Bar-Frame Hives, £1.—STUART-HARRIS, Aylsham. h 28

QUEENS, the best obtainable.—Pure Black English, no foreign rubbish. Prices see last week's advertisement, page v.—CHARTER, Tattingstone, Ipswich. h 42

QUEENS, choice 1908 bred from my Non-Swarming Stocks, 3s. 6d. each, safe arrival guaranteed.—TAYLOR, Hollyhurst, Boldmere-road, Wylde Green, Birmingham. h 23

SECTION GLAZING.—Best quality Lace Paper, made especially for Bee-keepers' use, not common box edging white, 100 6d., 300 1s. 4d., 500 2s. 3d., 1,000 3s. 9d., post free; blue, green, or pink, 100 7d., 300 1s. 6d. 500 2s. 6d.; Lace Bands, 2¾in., 3in., and 3¾in. wide, white, 100 1s. 2d., 200 2s. 3d., 500 4s.; a few in pink and blue, 100 1s. 4d., 200 2s. 6d.—W. WOODLEY, Beedon, Newbury.

QUEENS.—Doolittle strain. What are they? They are Bees bred by selection for over 30 years from Ligurian stock, bred (1) for their energy and working capacity; (2) mildness of temper; (3) colour. They are well-marked Bees, and Golden Queens, and were bred by G. M. Doolittle, the originator of the system of Queen-rearing on which all modern systems are founded. Fertiles, 5s.; Virgins 1s. 6d. Orders executed in rotation.—D. TAYLOR, Ilminster. h 27

Special Prepaid Advertisements.—*Continued.*

STRONG NATURAL SWARMS, warranted healthy, 12s. 6d., packed, safe delivery.—CADMAN, Codsall Wood. h 36

HONEYCOMB.—Wanted, new Sections, first quality, prompt cash.—Write first to K 731, care of Shelley's, Gracechurch-street, E.C. f 91

WILL EXCHANGE 10 Black Minorca 1906 and 1907 hens for Swarms or Nuclei, Carniolans preferred.—RICHARDS, Thurlby, Wallington. h 26

NEW HONEY BOUGHT IN ANY QUANTITY for prompt cash; packages sent for if desired. Best price quoted on receipt of sample. State quantity.—SPRING AND CO., LTD., Brigg, Lincs. h 32

SPLENDID LIGHT CLOVER HONEY FOR SALE, £3 per cwt. Sample 3d.—ALBERT COE, Apiarist, Ridgewell, Halstead, Essex. h 33

"THE PREPARATION OF HONEY AND WAX FOR THE SHOW BENCH," post free 7d.—JOSEPH TINSLEY, Chebsey, near Stafford. h 24

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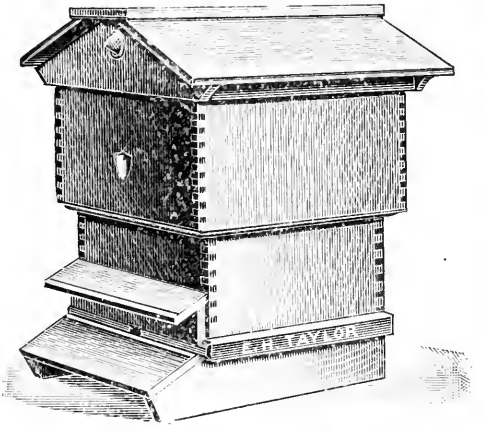

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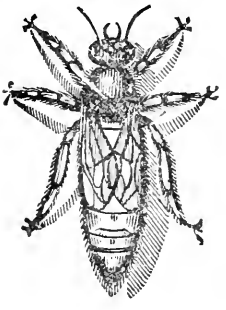

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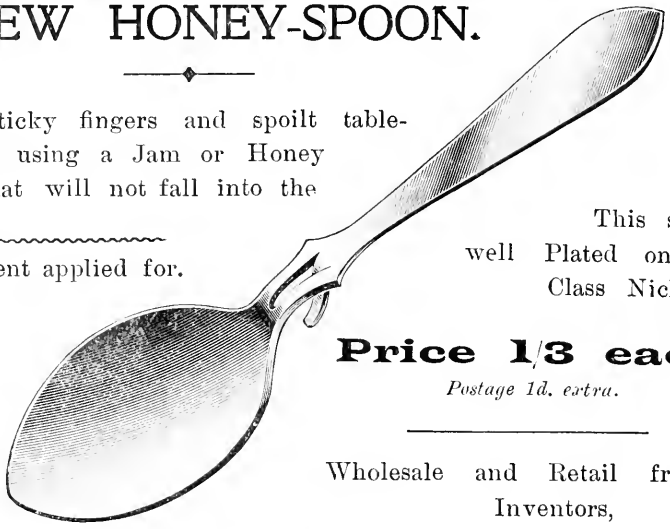

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Editorial, Notices, &c.

CONGRESS OF BEE-KEEPERS.

LORD AVEBURY'S ADDRESS.

(*Concluded from page* 263.)

Amongst other experiments, I brought a bee to some honey which I placed on a slip of glass laid on blue paper, and about 3 ft. off I placed a similar drop of honey over orange paper. Under such circumstances the bee takes two or three minutes to fill herself, then flies away, stores up the honey, and returns for more. My hives were about 200 yards from the window, and the bees were absent about three minutes, or even less. When working quietly they fly very quick, and the actual journeys to and fro did not take more than a few seconds.

After the bee had returned twice I transposed the papers. She returned to the old spot, and was just going to alight when she observed the change of colour, pulled herself up, and without a moment's hesitation darted off to the blue. No one who saw her at that moment could have had the slightest doubt about her perceiving the difference between the two colours.

But I was anxious to go beyond this, and to attempt to determine whether, as M. Paul Bert supposed, their limits of vision are the same as ours. We all know that if a ray of white light is passed through a prism it is broken up into a beautiful band of colours known as the spectrum. To our eyes this spectrum, like the rainbow—which is, in fact, a spectrum—is bounded by red at the one end and violet at the other, the edge being sharply marked at the red end, but less abruptly at the violet. But a ray of light contains, besides the rays visible to our eyes, others which are called, though not with absolute correctness, heat rays and chemical rays. These, so far from falling within the limits of our vision, extend far beyond it, the heat rays at the red end, the chemical or ultra-violet rays at the violet end. I made a number of experiments, which have since been fully verified by others—especially by Forel—which satisfied me that ants and some other animals are sensitive to the ultra-violet rays which lie beyond the range of our vision. This obviously opens up some very interesting problems.

As to the sense of hearing, also, we meet with great difficulties. Forel thinks they cannot hear. Voltaire, in one of his most interesting books, makes Micromegas, the gigantic inhabitant of Sirius, visit our world, and, having done so, concludes that, as his ears did not enable him to hear the voices of men, and consequently no sounds reached him, therefore men did not speak. "Moreover," Voltaire makes him say, "how is it possible that such infinitesimal atoms as men should have the organs of voice? And what could they have to say? To speak," he continues, "it is necessary to think, or nearly so. Now to think requires a mind, and to attribute a mind to these little creatures would be absurd."

Very similar opinions, even in almost the same words, have been expressed by men with reference to insects, and it has been one of my principal objects in studying ants and bees to throw, if possible, some little light on this interesting question.

Previous observers have entertained very opposite opinions on this point. I tested my ants with various sounds. When they were moving quietly along or while they were feeding I tried them with a great variety of sounds—a violin, tuning-forks, penny pipe, a dog whistle, and all the most excruciating sounds of my own voice—but they never gave the slightest indication of hearing them.

It has, however, generally been considered that bees were able to hear. In order, if possible, to determine this question, I have made a number of experiments. It has been already shown that when a bee had been accustomed, even for a few hours, to come to honey placed on blue paper, she associated the blue with the honey, and flew off to blue paper, fully expecting to find honey on it. Accordingly, I thought I might in the same way test their power of hearing by seeing whether they would associate honey with sounds.

I took a musical-box at the end of September, put some honey on it, placed it on my lawn just outside the windows, brought some bees to it, and set it playing. We kept it continually going, and with honey on it, till October 8. It happened to play the tune "I Dreamt that I Dwelt in Marble Halls." It is not, I think, a very delightful tune, and I can assure you that by the end of ten days we had become very tired of it. We often wished that we had chosen something else. When I thought that the bees had had ample time to associate the sound of the tune and the presence of the honey—that is, after ten days—I carried the musical-box and the honey up to an open window on the first floor looking over the lawn, and set the box playing, but not a bee came. I need hardly say that the music was quite audible on the lawn. I then again put the musical-box and the honey on the lawn, but at a different part, and the bees very soon again began work. After the lapse of an hour I brought the honey and musical-box into the house, and placed them at an open drawing-room window on the ground floor and less than 15 yards from where

they had stood on the lawn. The music was kept going for an hour, but not a bee came.

The following day was again extremely fine. The bees came as usual to the honey. I let them feed till 10 a.m., when I removed the honey as before to the drawing-room. After the lapse of half an hour I set the box playing and waited half an hour, but not a bee came.

I then put the honey and musical-box again out on a chair on the lawn, 5 yards in front of the drawing-room window. The first bee found the honey in five and a quarter minutes, and soon many came. I left it for three-quarters of an hour, and then brought the honey and the musical-box into the house, and put them just inside the window, but out of sight. The box was kept playing for three-quarters of an hour, during the whole of which a few bees kept hovering round the chair; but not a single bee found the honey, or even was attracted by the music into the room. I then took the honey and put it again on the chair outside. In less than five minutes nine bees had settled on it. I then brought it back into the room, and put it, with the bees on it, where it had stood previously. The bees fed, returned to the hive, and came back again to the honey as usual, showing that they had not the slightest objection to enter the house.

I then took the honey and the musical-box down to the hives. Immediately (*i.e.*, about a yard) in front of my hives is a low wall, and I put the box and the honey on the far side of the wall, so that they were something less than 4 yards distant from the hive, but, of course, not directly visible. I then kept the music going for two hours—from 1.30 to 3.30 p.m.—but not a bee came to the honey.

From these experiments we are, I think, justified in concluding either that the bees did not hear the music, or that, though they had been feeding close to the music, eight days was not a long enough period to suggest to them that there could possibly be any connection between the honey and the musical-box.

To decide between these two alternatives, I moved the musical-box (without setting it to play) and honey to another part of the lawn, about 15 yards from the first, and put an equal quantity of honey on a similar piece of glass at about the same distance both from the musical-box and from the spot where the box had previously been. In half an hour there were several bees at the honey on the musical-box, and none at the other. After this we had a week of rain. The next fine morning I again put out the musical-box with some honey, and at a distance of about 15 yards a similar quantity of honey on a bit of glass on the grass. In half an hour there were several bees at the honey on the musical-box and none on the other.

The observations indicate, as far as they go, that the bees did connect the presence of the musical-box with that of the honey, and were guided by it, even if it were not playing, so long as they could see it; but that if they could not see it, even though it were playing, it did not assist them.

At first sight it might seem that these experiments are in direct opposition to the general idea—that a clanging noise is useful in causing bees when swarming to settle soon. This notion is as old as Aristotle, who says: "Bees also appear to have pleasure in noises, so that they say that they collect them into their hives by striking earthen vessels and making noises." He adds, however: "But it is very doubtful whether they hear or not."

I cannot from my own experience decide the point. Admitting, however, that a custom so ancient and so widely spread is unlikely to be entirely without foundation, I would suggest as possible that what the bees hear under these circumstances are not the sounds which affect us, but the higher upper notes near and beyond our range of hearing. Sir George Darwin and Lord Rayleigh, whom I have consulted on the subject, inform me that the presence of these inaudible overtones is unquestionable. Sir George Darwin says: "The high overtones (generally non-harmonic overtones) are very strong within the limits of audibility, and it is almost certain, though not experimentally verified, that the overtones beyond the limits of audibility are strong also."

It is possible that what bees hear are these overtones, and not the tones which are audible to us. Forel was long disposed to question whether ants and bees could hear, and, though recent experiments have shaken him, is not yet convinced.*

I have always felt a great longing to know how the world appears to other beings. On this question our knowledge is still extremely defective. Have insects, for instance, the same senses as ours, or fewer, or even more? I have shown that the ultra-violet rays which are invisible to us are visible to some ants and crustacea. Moreover, why should we assume that there can only be five senses? Sound is the sensation produced by vibrations of the air striking on the drum of the ear: when they are few the sound is deep; as they increase in number it becomes shriller and shriller; but when they approach 40,000 in a second they cease to be audible.

Light is the effect produced on us when waves of light strike on the eye. When

* "Senses of Insects," page 254.

400 millions of vibrations strike the retina in a second, they produce the sensation of red, and as the number increases the colour passes into orange, then yellow, green, blue, and violet. But between 40,000 vibrations in a second and 400 millions we have no organ of sense capable of receiving the impression. Yet between these limits any number of sensations may exist. We have five senses, and sometimes fancy that no others are possible. But it is obvious that we cannot measure the infinite by our own narrow limitations. Moreover, looking at the question from another side, we find in other animals complex organs of sense, richly supplied with nerves, but the function of which we are as yet powerless to explain. In fact, there may be fifty other senses as different from ours as sound is from sight; and even within the boundaries of our own senses there may be endless sounds which we cannot hear, and colours as different as red from green, of which we have no conception. These and a thousand other questions remain for solution. The familiar world which surrounds us may be a totally different place to other animals: to them it may be full of music which we cannot hear, of colour which we cannot see, of sensations which we cannot conceive. Here is a wide, and as yet almost untrodden, field of study.

To place stuffed birds and beasts in glass cases, to arrange insects in cabinets, and dried plants in drawers, though most important, is merely the drudgery and preliminary of study. On the other hand, to watch their habits, to understand their relations to one another, to study their instincts and intelligence, to ascertain their adaptations and relation to the forces of Nature, to realise what the world appears to them, is—as it seems to me at least—the true interest of natural history, and may even give us the clue to senses and perceptions of which at present we have no conception.

Passing from the problems of the senses to those of sex, bees offer us some very remarkable problems. Why some children are boys and others girls no one knows. Various suggestions have been thrown out, but none are supported by any satisfactory evidence. Bees present this problem in a different aspect. They make, we know, three forms of cells, those intended for queens, drones, and workers respectively, and suitable eggs are laid in each. How is this managed?

As regards the queens and workers, there is no difficulty. The eggs are the same. The difference is a matter of food. Any female larva less than three days old can be fed into a queen if she is supplied with royal food. This is wonderful enough in itself, but it does not raise the problem we are considering for the moment. The case of the drones is much more difficult. How can the bees arrange so that male eggs are laid in drone-cells, female eggs in those for queens or workers? The bees belonging to the genus Osmia arrange their cells in a row in a hollow stick or some other similar situation, and it has long been known that in these and similar cases the cells first provisioned, and which are therefore furthest from the entrance, always contain females, while the outer cells always contain males.

There is an obvious advantage in this, because the males come out a fortnight or more before the females, and it is, of course, convenient that those which have to come out first should be in the cells nearest the door. The bee does not, however, lay all the female eggs first and then all the male eggs. By no means. She produces altogether from fifteen to thirty eggs, but seldom arranges them in one row. Generally they are in several series, and in every one the same sequence occurs—females further from and males nearest to the door.

M. Fabre concludes, then, and it seems to me has given very strong reasons for thinking so, that these privileged insects not only know the sex of the young which will emerge from the egg they are about to lay, but that at their own will they can actually control it. Certainly a most curious and interesting result!

Finally, I come to the most difficult, and perhaps most interesting, problem of all: How much intelligence, if any, do bees possess? Darwin once said that the brain of an ant was the most marvellous atom of matter in the world, and that of a bee can be little less so. That is true in any case, but, of course, still more true if bees have any intelligence.

Many of you, if I am not mistaken, would, as I should myself, at once answer this question in the affirmative, and feel surprised that there should be any doubt. But there is. Descartes was not only a great philosopher, but also a great naturalist, and he came to the conclusion that all the movements and actions of animals were purely automatic—that, in fact, animals were mere machines or automata, devoid not only of reason, but of any kind of consciousness.

Fabre, than whom I know of no more charming observer of insect life, considers that the action of a bee or wasp in building its nest and providing food for the young is as automatic as the digestion of food. Bethe, Nexkull, and other entomologists have expressed a similar opinion.

I know no biological philosopher more profound than Professor Huxley, and he used laughingly to say that he was not certain that my actions were not all instinctive and automatic, and I could only retort that, without comparing myself

with him, still, if I were a mere automaton, the same must be said of him; which appeared to me a *reductio ad absurdum*.

Father Wassmann, S.J., to whom we owe many interesting researches on ants, especially with reference to other insects, also puts a very low estimate on their intelligence.

Romanes considered that "instinct passes into reason by imperceptible degrees."*

Lloyd Morgan also is "not prepared to say that there is a difference in kind between the mind of a man and the mind of a dog." Indeed, he goes further: "I see no reason for believing that mental processes in man differ thus in kind from mental processes in animals."

Forel also takes that view. In social insects, he says, "it is impossible to demonstrate the existence of memory, associations of sensory images, perceptions, attentions, habits, simple powers of inference from analogy, the utilisation of individual deliberations or adaptations." †

Darwin quoted with approval the saying of Pierre Huber that bees have "a little dose of judgment or reason." ‡

I have always myself been of opinion that, while other animals are immeasurably inferior to us in intelligence, they have some glimmerings of reason.

Indeed, it seems difficult to imagine how a community consisting of several thousand individuals and with young in all stages can be housed, fed, ventilated, regulated, and protected without at any rate "a little dose" of intelligence, if not more.

Moreover, no one can doubt that animals experience emotions—anger, fear, jealousy, and love—and these imply some intelligence.

If, then, I did not know that it was not so, I should have agreed with Henry Drummond that the possession of a certain amount of intelligence by animals was a fact which nobody could deny. Yet, as we have seen, some good observers do deny it. Henry Drummond, in "The Ascent of Man," says that "a few favourite mammals, some birds, three or four of the more picturesque and clever of the insects—these almost exhaust the list of those whose ways are thoroughly known."

I should rather say that there is no single animal or plant which is thoroughly known to us. Evidently, at any rate, the study of bees opens up many questions of absorbing interest. You, gentlemen, are taking a useful part not only in providing more bountifully a wholesome, nutritious, and delightful article of food, but in facilitating studies which may lead to discoveries of the most intense interest; for if Tennyson was justified, as I think he was, in his reference to the

Flower in the crannied wall,

the same may surely be said, not indeed with more truth, but perhaps with more reasonable hope, of these wonderful little creatures which are our study and our delight.

(*Report continued in our next.*)

* "Animal Intelligence," page 16.

† "Ants and Some Other Insects," 1904, page 36.

‡ "Origin of Species," page 249.

THE "ROYAL" SHOW AT NEWCASTLE

SECOND RECORD ATTENDANCE.

The sixty-ninth annual exhibition of the Royal Agricultural Society of England, held at Newcastle-upon-Tyne last week, nearly reached the record established at Manchester in 1897. On that occasion, however, the show opened on Wednesday and closed on the following Tuesday, the total number of visitors for the six days being 217,980 as against 213,867 for five days at Newcastle, where the show opened on Tuesday, June 30, and closed on Saturday, July 4. Last week's show was, however, in itself a record one in many respects, the weather during the whole time being as near perfect as could be, and the means of transit to and from the show-ground have never been equalled in our over twenty years' experience of "Royal" Shows. The commodious electric trams of the city ran about every two minutes from the Central Station to within a few yards of the main entrance to the show-ground, fare 1d. Wagonettes or other conveyances were therefore dispensed with, to the general advantage of the public.

This extraordinary attendance was no doubt largely due to the fact of the Prince and Princess of Wales having promised to visit the show on two days, one of which was considerately reserved for the popular or shilling days when the bulk of the visitors were of the agricultural and industrial classes, who made up the gigantic figures at the turnstiles quoted above, to the evident gratification of all concerned.

The shedding occupied by the Bee Section of the show, though not so extensive as at Lincoln last year, was fairly well filled: indeed, but for the absence of Messrs. Abbott Brothers, who were unable to send a collection so far north in the busy season, the space allotted to the hives and appliances would have been crowded. As it was, the firms represented made up a fine display, in which were comprised every appliance required in the up-to-date apiary.

The honey section of the bee-department was a comparatively small one, much

smaller than at Lincoln last year or at Derby in 1906—a fact that will cause no surprise among bee-keepers after the abnormally bad honey season of 1907. Indeed, we may say that but for the enterprise and public spirit shown by exhibitors from the South and Midlands, the honey show of 1908 would have been a sorry affair, two entries—both from Durham—representing the whole strength of the county bee-keepers' association.

Pressure on our space prevents us from giving more than the full prize list this week, reserving comment on the exhibits till our next issue. The Rev. Sidney Smith, Wheldrake Rectory, York, and Mr. W. Broughton Carr, London, judged the hives and miscellaneous classes; Messrs. W. F. Reid, Addlestone, Surrey, and J. N. Kidd, Stocksfield-on-Tyne, took the honey and honey trophy classes: the collections of bee-appliances being adjudicated upon by all four judges, their awards being as follow:—

HIVES AND APPLIANCES.

Class 442.—*Collection of Hives and Appliances, including Suitable Outfit for a Beginner in Bee-keeping* (4 entries).—1st, Jas. Lee and Son, Martineau Road, Highbury, London; 2nd, E. H. Taylor, Welwyn, Herts; 3rd, W. Dixon, Beckett Street, Leeds.

Class 443.—*Complete Frame-hive for General Use* (8 entries).—1st, Abbott Brothers; 2nd, James Lee and Son; 3rd, Abbott Brothers; r. and h.c., Jas. Lee and Son; h.c., E. H. Taylor.

Class 444.—*Complete Frame-hive for Cottager's Use, price not to exceed* 10s. 6d. (6 entries).—1st, James Lee and Son; 2nd, E. H. Taylor; 3rd, Abbott Brothers; r. and v.h.c., W. P. Meadows, Syston, Leicester.

Class 445.—*Honey-extractor* (4 entries).—1st, W. P. Meadows; 2nd, W. P. Meadows.

Class 446.—*Observatory-hive with Bees and Queen* (4 entries).—1st, William Dixon, Beckett Street, Leeds; 2nd, Jas. Lee and Son.

Class 447.—*Any Appliance connected with Bee-keeping* (8 entries).—1st, W. P. Meadows; 2nd, W. P. Meadows; 3rd, Abbott Brothers; r. and h.c., Abbott Brothers.

HONEY.

Entries in Classes 448 to 451 can only be made by residents in Cheshire, Cumberland, Derbyshire, Durham, Herefordshire, Lancashire, Leicestershire, Lincolnshire, Monmouthshire, Northumberland, Nottinghamshire, Rutland, Shropshire, Staffordshire, Warwickshire, Westmorland, Worcestershire, Yorkshire, the Isle of Man, Ireland, Scotland, or Wales.

Class 448.—*Twelve* 1-*lb. Sections* (8 entries).—1st, J. G. Nicholson, Langwathby, Cumberland; 2nd, A. W. Weatherhogg, Willoughton, Lincs; 3rd, J. W. Pearman, Penny Long Lane, Derby.

Class 449.—*Twelve* 1-*lb. Jars of Extracted Light-coloured Honey* (11 entries).—1st, J. Berry, Llanrwst, North Wales; 2nd, H. Dilworth, Shangton, Leicester; 3rd, J. Boyes, Queen's Head Hotel, Cardiff; h.c., R. Morgan, Cowbridge, Glamorgan, and J. Pearman; c., W. J. Cook, Benbrook, Market Rasen.

Class 450.—*Twelve* 1-*lb. Jars of Extracted Medium or Dark Coloured Honey* (6 entries).—1st, F. Harris, Sibsey, Boston, Lincs; 2nd, H. Dilworth; 3rd, F. W. Frusher, Crowland, Lincs.

Class 451.—*Twelve* 1-*lb. Jars of Granulated Honey* (5 entries).—1st, J. Boyes; 2nd, W. Patchett, Cabourne, Caistor, Lincs; 3rd, A. Weatherhogg.

Entries in Classes 452 to 456 can only be made by residents in Bedfordshire, Berkshire, Bucks, Cambridgeshire, Cornwall, Devon, Dorset, Essex, Gloucestershire, Hampshire, Herts, Hunts, Isle of Wight, Kent, Middlesex, Norfolk, Northamptonshire, Oxfordshire, Somerset, Suffolk, Surrey, Sussex, or Wiltshire.

Class 452.—*Twelve* 1-*lb. Sections* (7 entries).—1st, R. Brown and Son, Somersham, Hunts; 2nd, R. H. Baynes, Bridge Street, Cambridge; 3rd, Chas. Lodge, High Easter, Chelmsford; r. and h.c., S. G. S. Leigh, Boughton, Hants.

Class 453.—*Twelve* 1-*lb. Jars of Extracted Light-coloured Honey* (5 entries).—1st, R. H. Baynes; 2nd, R. Brown and Son; 3rd, S. G. S. Leigh; v.h.c., E. C. R. White, Newton Toney, Salisbury.

Class 454.—*Twelve* 1-*lb. Jars of Extracted Medium or Dark Coloured Honey* (5 entries).—1st, R. Brown and Son; 2nd, E. C. R. White; 3rd, S. G. S. Leigh.

Class 455.—*Twelve* 1-*lb. Jars of Granulated Honey* (4 entries).—1st, R. Brown and Son; 2nd, Geo. Deller, Royston; 3rd, R. H. Baynes.

Class 456.—*Three Shallow-frames of Comb Honey for Extracting* (5 entries).—1st, E. C. R. White; 2nd, Chas. Lodge.

Class 457.—*Six* 1-*lb. Jars of Heather Honey* (5 entries).—1st, A. F. Borland, Glenbervie, Cumnock; 2nd, T. Sleight, Danesmoor, Chesterfield; 3rd, W. Dixon; h.c., Jas. Pearman.

Class 458.—*Six Jars of Heather-mixture Extracted Honey* (7 entries).—1st, W. E. Brooking, Malborough, Kingsbridge, Devon; 2nd, W. Dixon; 3rd, Robt. Green, Boroughbridge, Yorks.

Class 459.—*Honey Trophy* (4 entries).—1st, W. Dixon; 2nd, J. Pearman; 3rd, R. Brown and Son; h.c., R. Brown and Son.

MISCELLANEOUS.

Class 460.—*Beeswax (not less than* 2 *lb.)* (8 entries).—1st, F. W. Frusher,

Crowland, Lincs; 2nd, E. C. R. White; 3rd, R. Brown and Son; r. and h.c., Jas. Pearman.

Class 461.—*Beeswax (not less than 3 lb., in Shape, Quality, and Package Suitable for the Retail Trade)* (6 entries).—1st, James Pearman; 2nd, E. C. R. White; 3rd, F. W. Frusher; r. and h.c., R. H. Baynes.

Class 462.—*Honey Vinegar* ($\frac{1}{2}$ *gallon*).—1st, James Pearman.

Class 463.—*Mead* ($\frac{1}{2}$ *gallon*).—2nd, R. Brown and Son.

Class 464.—*Exhibit of a Practical or Interesting Nature Connected with Bee-culture.*—1st, G. Heinreich, Sonnenburg, Neun, Germany; certificate, W. Dixon.

(*Report continued in our next.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES FROM NORTH HERTS.

[7164.] Referring to the mention of the Isle of Wight disease by Mr. H. Hill in B.B.J. of June 18 (page 244), may I say the form of what I take to be this disease that I have observed in the Home Counties has usually been marked by a lack of honey in the combs? A few of the later cases were due to queenlessness or to an unmated queen. One promising case where a swarm was badly affected was caused by the heat, and a speedy recovery ensued when the skep was wedged up to allow of ventilation. With regard to the question about the possibility of the disease being caused by spraying fruit-trees with poisonous chemicals, I think we need not trouble about treacle if anything better is to be had, but in a time of scarcity bees have been known to make a raid on the village fair and remove the jam from the tarts; and quite recently they were neglecting white clover because they preferred raspberry flowers. Mr. Hill's experiment is therefore somewhat inconclusive. The use of poison as a weed-killer is also overlooked. Charlock is sprayed when in full bloom and when yielding honey, and I have heard of an apiary being ruined by this means. Unfortunately, I have had no opportunity of calling on the bee-keeper in question, but should imagine the symptoms in a case of this sort to consist of bees unable to fly (owing to gastric trouble) and gathering in knots outside the hive, disappearance of the honey-gatherers, and in the interior of the hive there would remain healthy brood and a queen with very few bees.

The Hexagonal Cell Theory.—The mention of this matter by your correspondent "D. M. M." (page 241) inclines me to think that, although there may be no actual compression, the cells of honey-comb are hexagonal because of being too close together to be any other shape. As other forms of cells use up more wax, the advantage would always be with the strain of bees that most nearly approached perfection. After a season such as that of 1907 a few ounces of honey determined the fate of stocks. It is therefore by no means certain that the hexagon was the original design. Recently I saw a piece of comb containing a double row of pentagonal cells, and Mr. Cowan in "The Honey-Bee" gives an illustration of square cells. The disadvantages as well as the advantages that bees possess in the struggle for existence may be attributed to the First Cause, but this is a confession of faith rather than an explanation of the mechanism by which certain results are brought about.

It would be interesting to know on what point bee-keepers are most at variance on this subject. Dr. Elliot expresses one opinion and "D. M. M." the opposite. Probably the majority never think about the matter at all, and only want the cells filled with the best clover-honey.—G. W. Bullamore, Albury, Herts.

BEES IN EAST SOMERSET.

[7165.] I am sending a few lines for the B.B.J. on the season of 1907, and on that of the present year to date. Here in East Somerset, at the foot of the Mendips, with the famous and historic Glastonbury Tor forming a lovely western background, while away to the north we can see Cranmore's Monument just outside of Shepton Mallet—I can truly say a lovely spot for bee-keeping, with beautiful orchards of apple-trees all around us, which when in bloom cannot be excelled. Yet, with all this, our bees have had a very bad time of it. The wet, cold summer of 1907 no doubt laid the foundation of the trouble, for very little honey was stored. But, owing, I think, to the small amount of honey coming in by fits and starts, the queens kept on breeding, and thus the "store" was very small. I took no honey myself at all in 1907, but fed up liberally and packed down eighteen stocks for winter. Alas! when spring came—and here it was very late—stocks in this district were found either dead or nearly so. I can account for nearly fifty stocks that perished absolutely during the winter, and

the peculiar point of the trouble was that most of them had sealed honey left in the hives, but it was candied, and the bees were unable to get out to get water to reliquefy it for use, and so perished with apparent plenty. Out of my eighteen I lost six, and one had nearly 20 lb. of sealed candied honey left. Those stocks that had less stores came through the winter best. Spring found them still backward, and only a few stocks sufficiently strong enough to take advantage of the extraordinary apple-blossom. These, however, built up rapidly, and are now doing well. Most of mine have now two supers each nearly full, and I shall have to put another on most of them to-morrow. Swarms have been very backward. My first came out on May 31, but it flew right away after being hived, and I lost it. Swarms have not been at all large or numerous. I have had to cancel several orders. I trust we shall have a good harvest this year to recompense us for the very bad season of 1907.

I have been observing my bees much of late, and I noticed that it was only the youngest flying bees that brought in pollen —that the oldest ones did the honey-gathering. This may help us to know that if a lot of brood is not reared very late in the fall and very early in spring there will be later no bees to bring in pollen and rear brood in any quantity. I also believe that your correspondent Mr. Lancelot Quayle (7145, page 243) is quite right when he says candied honey or granulated honey is useless for bee-food, whether heather or clover. I must say in closing I enjoy and look forward to my B.B.J. with great pleasure. With all best wishes to brother bee-keepers.—R. LITMAN, Castle Cary, June 29.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Australian Honey (page 233).—It is doubtful if it would pay the Australian bee-keeper to clear the forests. In fact, we heard at the Conference that the Government is now considering protection of such areas in the interests of the bee-keeper. But there is already a constant market for Australian honey at home, though at low prices, for it is there definitely regarded as a necessary food. This means much, and if, as we further learned, the early consignments of their honey to England were artificially flavoured with eucalyptus, they have themselves to thank for a partly-closed door here in that they went out of their way to get it further recognised as a medicine!

Mexican Honey (page 233). — Mr. Breach does not state here from what source this very thick honey is derived. It would be interesting to us if he would very kindly tell us all about it.

Winter Losses (page 234).—It is hardly fair to take a skeppist's winter loss of "one in four" as a basis for this account in a really well-cared-for apiary, where with modern hives the actual condition of each stock can be fairly ascertained before going into winter quarters. I should not feel satisfied as a bee-farmer to lose 25 per cent. annually.

The "Lancet" (page 237).—It may be that I am the unfortunate possessor of a perverted sense of humour, but I cannot for the life of me rid myself of a conviction that there is a joke hidden somewhere in this more or less serious journal's recommendation to count the pollen-grains in "heather honey" to make sure whether it has come from the moors! I do not like to spoil a joke for those who are, like myself, heather men, and who will perhaps see it with me. Those who are not must imagine a man recognising his wife from time to time by the Bertillon method!

Fruit Trees and Bees (page 238).—This should be a good fruit year, for with a late spring and favourable flight-weather for the bees during the blossoming season, even distant trees should be carrying their full share of fruit.

Müllenhoff's Theory (page 231).—

How doth the little busy bee
"Preserve" each shining minute;
And when the honey doth require
She wags her tail within it!
What chemic mystery we see
Thus hid in honey potses!
How such a theme as this would fire
A brain like Dr. Wattses!

Hexagonal Cells (page 242).—Is it true that crystals assume their form owing to pressure? They appear to grow and to conform to laws other than merely those which govern bottled peas. The peas assume similar form because they are uniform in size, and the pressures are relatively similar. If the peas were uneven in size and of bubble elasticity, they would assume shapes which would relatively conform to transition cells. For, whilst it is not pressure which hexagonises the round cell of the bee, it is interference—which in the case of the pea is that of blind pressure, but in that of the cell is modification subject to intelligent manipulation. The flat sides of the cells are indeed only the expression of their relationship to their neighbours, and the hexagonal form is only the most economical, viewed in this definite light. In other words, the cylindrical cell is the most economical of material considered alone, and where a bee constructs a single cell, as in solid wax or at the edge of comb, she ap-

pears to take no heed of any other high-falutin geometrical requirements. Again, a comb composed of round cells would be not weaker, but stronger, than the normal, but it would contain more wax. It would indeed be much longer before it assumed the shape of a cocked hat under similar stress. So that, although I should like to agree with you, "D. M. M.," I feel obliged to differ.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

July 16 and 17, at Sleaford.—Show of Honey, Hives, and Bee-Appliances in connection with the Lincs. Agricultural Society. **Entries closed.**

July 22, at Nether Wallop.—In connection with the Horticultural Show. Open classes for Honey: Best 1-lb. Jar Extracted, Best 1-lb. Section. Schedules from Pryce E. Roberts, Schoolhouse, Nether Wallop, Stockbridge. **Entries close July 15.**

July 22 and 23, at Bursiem.—Annual Show of the Staffs B.K.A., in conjunction with the Staffs Agricultural Society. Liberal prizes. Five open classes, including one for single 1-lb. Section and single 1-lb. Jar. Schedules from Joseph Tinsley, Chebsey, near Stafford. **Entries finally close July 11.**

July 22 and 23, at Cardiff.—Annual Show of the Glamorgan B.K.A., in connection with the Cardiff and County Horticultural Society. Members', Novices', and Open Classes. Substantial money prizes. Schedules from W. Wiltshire, Assist. Hon. Sec., Maindy Schools, Cardiff. **Entries close July 16.**

July 29, at Henbury, near Bristol.—Annual Show of Honey and Wax of the Henbury District B.K.A., in connection with the Horticultural Society's Exhibition. Good prizes. 7 open classes, including free entry for single section and single bottle. Schedules of Hon. Sec., F. E. May, Bellasis, Stoke Park, Westbury-on-Trym, Bristol. **Entries close July 22.**

July 29, at Upwell, Wisbech.—Horticultural Society's Show. All exhibits will receive careful attention. Open classes for Honey, including gift class for 1-lb. Jar. Schedules from Hon. Secretary, J. Hy. Inman, Upwell, Wisbech. **Entries invited.**

July 30, 31, and August 1 and 3, at Manchester.—Annual Show of the Royal Lancashire Agricultural Society. Open classes for Honey-Trophy, Sections Extracted Honey, Beeswax, Honey Confectionery, Bee-Flowers, Instructive Exhibits in Bee-Culture, &c. **Entries closed.**

August 3 (Bank Holiday), at Cambridge.—Show of Bees and Honey. Championship Motor and Athletic Sports. Dogs, Cats, Mice, Flowers, Fruit, Vegetables, Poultry, Birds, &c. Fireworks by Pain; the largest and most attractive show outside London. Excursions from all parts. Prizes paid on day of Show. Schedules, Warren, 81, Richmond Road, Cambridge.

August 3 (Bank Holiday), at Clewer, Windsor.—Show of Honey and Appliances by the Windsor Branch Berks. B.K.A., in conjunction with the Clewer Horticultural Society. Schedules from Hon. Sec., Mrs. W. S. Darby, 1, Consort Villas, Clewer, Berks. **Entries close July 29.**

August 3 (Bank Holiday), at Melton Constable.—North Norfolk B.K.A. Annual Show of Honey. Schedules from C. J. Cooke, Edgefield, Melton Constable. **Entries close July 25.**

August 5 to 7, at Halifax.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. **Entries closed.**

August 6, at Madresfield, Malvern.—Annual Show of the Worcestershire B.K.A. Open class for 12 1-lb. jars Extracted Honey. Entry forms and schedules from Geo. Richings, 2, Shrubbery-terrace, Worcester.

August 12, at Wye (Kent Honey Show).—Five Open Classes: Trophy, cup value £3 3s. (entry 1s.), 1 lb. Section, 1 lb. Light Run, 1 lb. Dark Run, 20s., 10s., 5s. in each case (entry free); Beginner's Outfit, to retail 30s. (entry free). Fifteen Classes open to Kent: Two Challenge Cups, value £6 6s., and money prizes for 6 1-lb. Sections and 6 1-lb. Jars Extracted Honey. Money prizes for 6 Jars Light, 6 Jars Medium, 6 Jars Dark Extracted Honey, 2 Shallow or Standard Frames, 3 Sections and 3 Jars, 1 Jar Granulated, Beeswax, Mead, Candy, Cake Sweetened with Honey, Display of Cut Flowers, &c.; two Special Classes for Cottagers. Schedules of J. Tippen, Secretary, Wye, Kent. **Entries close August 5.**

August 12 and 13, in The Park, Taunton.—Somerset B.K.A. Annual Show, in conjunction with that of the Taunton Deane Horticultural Society. Increased Prizes. Sixteen classes, including eight open and two free. Schedules from L. E. Snelgrove, Hon. Sec., Cromla, Locking Road, Weston-super-Mare. **Entries close August 7.**

August 13, at Llangefni.—The County of Anglesey B.K.A. Honey Show. Prizes in Open Classes. Single Open Class for the best 6 1-lb. Jars of 1908 Honey, 10s. 6d.; entrance fee 1s. 6d. Two Classes, open to North Wales only, for the best and most attractive display of Honey and Honey Products, first prize £1 1s., second 10s. 6d.; entrance fee 2s. No second prize given unless three or more entries are made. Schedules from Rev. O. Kyffin Williams, Llangwyllog, North Wales. **Entries close July 25.**

August 14, in Public School, Portwilliam, Wigtownshire.—Honey Show in connection with the Horticultural Society. Classes for Sections and Extracted Honey, open to amateurs and cottagers. Challenge Class (open to all) for 3 1-lb. Jars Extracted Honey, prizes 20s., 12s., 8s., and 4s. Schedules from Secretary, Horticultural Society, Portwilliam, N.B.

August 19, at Lancaster.—Honey Show and Bee Demonstration, &c., in connection with the Lancaster Agricultural Society's Show. Open classes. Special prize, including silver challenge cup, value £6 10s., seven silver and bronze medals, &c. Schedules from Thos. Armistead and Son, auctioneers, Lancaster. **Entries close August 5.**

August 19 and 20, at Shrewsbury.—Annual Show of the Shropshire Bee-keepers' Association will be held in the Quarry, Shrewsbury, in connection with the Shropshire Horticultural Society's Great Floral Fête. Eight Open Classes for Honey. Free Entry for Single Bottle and Single Section. Schedules from S. Cartwright, Hon. Secretary, Shawbury, Shrewsbury. **Entries close August 7.**

August 20, at Abingdon Park, Northampton.—Honey Show of the Northants B.K.A. Special prizes for open classes, including one for single 1-lb. jar honey. (**Entry free.**) Prizes 20s., 10s., 7s. 6d., and 2s. 6d. Schedules from R. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 16.**

August 22, at Elworth, Sandbach.—In connection with the Elworth Athletic Club and Horticultural Society's Show. Class for Honey, open to the County of Chester. First prize 15s., second 7s. 6d., third 5s., for twelve 1-lb. Jars Extracted Honey; also Bronze Medal given by the Cheshire Bee-keepers' Association. Entry fee 1s. Schedules from A. E. Wright, Hon. Sec., Elworth, Sandbach. **Entries close August 15.**

August 26, at Chester (Cheshire Agricultural Society's Show). — Bee and Honey Department, under management of the C.B.K.A. Open classes for Hives, Sections, and Extracted Honey. Increased prizes. Members' classes. District class. Special prizes offered by Chester Tradesmen's Association. Schedules from T. A. Beckett, St. Werburgh's-chambers, Chester. **Entries close August 5.**

August 26 and 27, at Solihull, Warwickshire.—Show of Honey, Hives, and Appliances, in connection with the Warwickshire Agricultural Society. Schedules from J. N. Bower, Hon. Sec., Knowle, Warwickshire.

September 3, 4, and 5, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-six Classes (nine open to all). Increased Prizes and Medals. Schedules from F. B. White, Secretary, Marden House, Redhill, Surrey. **Entries close August 22.**

September 5 to 12, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Trades' Sixteenth Annual Exhibition and Market. (See large advertisement on page iii.) **Open to all British Bee-keepers.** Entry fee in each class 1s. Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 19 to 26, at the Agricultural Hall, London.—Honey Show in connection with the Sixteenth Annual Exhibition and Market of the Grocery and Kindred Trades. (See large advertisement on page iii.) Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.** Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 23, at Altrincham.—Honey Show in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. Classes for Trophy of Honey, for Best Hive, Observatory Hive with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester, for Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low entrance fees. Schedules from Mr. J. Herbert Hall, 2, Dunham Road, Altrincham. **Entries close September 5.**

Queries and Replies.

[3745.] *Raising Queens after Failure in Requeening.*—I have a colony of bees that was requeened about three weeks since. Three days ago I noticed that they were not working as usual. The bees did not enter the hive on alighting, and looked generally miserable. I examined the frames, but could not find a queen, or any sign of brood, and every frame was filled with pollen and honey, but chiefly pollen. As it was a fairly-strong colony I took away three frames, and gave them three frames from other colonies, with eggs and brood in various stages. They are now working busily, and I should be glad if you will tell me if it would be best to take away most of the pollen-clogged frames and give them new sheets of brood-foundation when the new queen is ready to lay, or will they throw out the pollen to make room for her themselves? I have been careful to nail a piece of coloured cloth on to the front of the hive this time, as I feel sure the one before was lost through entering the wrong hive.—E. J. S. S., Birmingham, June 30.

Reply.—It appears quite clear that the queen introduced three weeks ago has been killed off. You had therefore better examine the frames, and see if a young queen is being reared from the brood given. If this is so, and the resultant queen is safely mated, the pollen-clogged combs should be removed, and new combs built, as proposed.

[3746.] *Poisonous Honey.*—About a year ago I commenced bee-keeping here, and a gentleman who was staying here last autumn told Lady Roberts that the honey collected from the Kalmia shrub is poisonous. It so happens that there are some very good shrubs of that variety here, so I promised to find out if possible, and should therefore be much obliged if you could tell me if it is so.—F. H., Englemere, Ascot.

Reply.—The flower of *Kalmia latifolia* yields a nectar which is said to have poisonous qualities, but the shrub is not grown in Europe in sufficient quantities to affect honey seriously. Xenophon tells us that in the Retreat of the Ten Thousand the soldiers, who had partaken of some wild honey found near Trebizond, were made very sick, and, although none died, many were weakened for several days. In America in 1790, it is said, fatal cases were traced to eating honey from *Kalmia latifolia*. There is, however, no recent evidence of harm arising from this cause.

[3747.] *Failure in Re-queening Stock.*—I should feel much obliged if you would advise me *re* the following:—I have a stock of bees on ten frames, and the queen is known to be four years old. About seven combs are full of brood, others nearly empty. In May I tried to introduce a hybrid queen, as directed in the "Guide Book," but made the mistake of letting the queen slip away while twelve queen-cells were being formed. She was instantly "balled," and I could not recover her in time. I immediately returned the old queen, which bees accepted, and all queen-cells were destroyed by them, but I should like to know:—1. If colony should be re-queened? The bees have only just started in the super, which has been on for three weeks, and they are also very vicious. 2. Could bees be transferred into a larger hive with frames hanging different way?—L. S. D., Lee, S.E., July 4.

Reply.—1. If the queen is four years old you had better re-queen the stock after the honey season is over. At that time young queens are cheap. 2. Bees on standard frames may be placed in any hive made to take that frame, no matter how they hang with regard to the hive-entrance.

Notices to Correspondents.

F. W. (Lincs).—*Keeping Bees near Public Roads.*—There is no regulation distance at which bees must be kept away from roadsides. If your hives are 18 yards away, and are properly kept, no trouble should arise from horses passing along. Much, however, depends on the bee-keeper.

Bachelor (Macclesfield).—*Strainer for Extracted Honey.*—The best material we know of for this purpose is known as strong butter-muslin. When using, it should first be washed in warm water, and wrung out while warm, tied across the vessel into which the honey runs, allowing the muslin to sag sufficiently to hold a pint or so of honey.

Firefly (Warwicks).—*Swarming Vagaries.*—The various "happenings" detailed are beyond our powers of "explaining" from the description given, but we may say the swarm was evidently not a "prime" or top swarm, and could not have been headed by the mother bee of the colony. The dead queen sent is a virgin, and was probably one of several left in the hive when the swarm came off.

E. Lang (Lancashire).—*Adopting the Skep System.*—1. Many years ago, in our novitiate days, we tried the skep system, almost exactly on the same lines as you propose to adopt, by getting straw rims made the same size as the circular wooden boxes in which American cheeses were then imported. Our plan was to cut an "eke" about 3 in. deep from the cheese-box, and fasten it to the bottom edge of the rim of straw, and the lid of the cheese-box furnished the flat wooden top of the straw with a protecting plinth that fitted like a cap on the straw rim. Two long slots were cut in the wood top, and fitted with zinc slides, which, when drawn back, admitted the bees to the supers placed overhead. If the above rough outline of our plan is of any use, you are welcome to it, but we cannot spare time for fuller details. We gave up the plan after a few years' experience, and adopted the frame-hive and the modern system. 2. Pettigrew's book is, we believe, out of print, but copies may sometimes be picked up on old book-stalls for a few coppers.

Suspected Combs.

DUMFRIES (Closeburn), M. L. F. (Middlesex), R. (Northants), TOM STEAL (Derbyshire), and NEMO (Staffs).—In all the above cases the samples of comb sent are similarly affected with the disease known here as "black brood," which is practically a mild form of foul brood, and we believe it is quite possible that the present good weather and plentiful honey-flow will enable the bees to overcome the trouble, if the usual disinfectants are used; at all events, we advise our correspondents to defer further treatment till the honey season is coming to a close and supers now on the hives are removed.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

3 COMPLETE FULLY-DRAWN-OUT SUPERS, 4s. each, or exchange for strong Swarm.—"Monaville," Kelsall, Chester. h 50

DRIVEN BEES. Book early; no foul brood in district. Despatch before August 4, or cash returned. Price, including new Skep, 6s.—DAVIDSON, The Retreat, Melbury Abbas, Shaftesbury. h 52

WHAT OFFER IN SWARMS FOR A GEARED EXTRACTOR?—BECK, Airton, Bell Busk. h 44

3 STOCKS BEES FOR SALE, in good painted Hives, strong and healthy, 15s. each, owner leaving district.—W. THOMAS, Hunderton, Hereford. h 43

1 CWT. PURE CAMBRIDGESHIRE VERY LIGHT COLOURED HONEY, 1908, chiefly Sainfoin and White Clover, in 28-lb. tins, f.o.r., 77s.; sample, 3d.—JOHN CUNNINGHAM, Stetchworth, Newmarket, Cambs. h 46

GRAY'S SHOW JAR, fine sample of white flint glass, fulfilling all requirements of the Show Bench, 3s. dozen, free on rail; sample, 6d., post free.—THE WHITE APIARY, Long Eaton. e 24

PURE ITALIAN QUEENS, Tested 6s., Imported 5s.; Virgins, Root's Red Clover Strain, 2s. 3d.; Pure Black, 3s.; Virgins, 1s. 6d.; 4-Frame Italian Nucleus, with Queen, 16s.; Black, 12s. 6d.; Hives with Bees by arrangement.—G. THOMAS, Pwllcrochan Rectory, Pembroke. h 57

SEVERAL MICROSCOPES, by well-known makers, in good condition, great bargains.—L. WAKEFIELD, Blackmore Lodge, Bromsgrove. h 54

STOCKS OF 8 STANDARD FRAMES, Comb and Brood, 22s. 6d.; 10 ditto, 25s. 6d.; 3-Frame Nucleus, 12s. 6d.; 1908 Fertile Queen; or exchange good Extracted Honey. Hives supplied if required.—W. WOODS, Normandy, near Guildford. h 53

SPLENDID QUALITY EXTRACTED ENGLISH HONEY, in 1-cwt. Drums, carriage paid, 5½d. per lb.—F. E. FOSTER, Swinbrook Vicarage, Burford, Oxon. h 49

NEW SEASON'S FINEST LIGHT EXTRACTED HONEY, in 28-lb. tins, 7d. per lb., £3 per cwt.; in 14-lb. tins and 7-lb. tins, 8d. per lb.; tins free, carriage paid. Sample, 2d. Cash or Deposit.—CHARLES H. BOCOCK, Ashley Apiaries, Newmarket. h 51

PURE IRISH BITCH PUPPY, 4 months. Exchange for good strong Swarm Bees, or sell 21s.; satisfaction guaranteed.—GODDARD, Highstile, Penistone. h 48

CHESHIRE'S "BEES AND BEE-KEEPING." 2 volumes, 10s.; Bagster's "The Management of Bees," 2s., 1834; Bevan's "The Honey-Bee." 2s., 1827; all post free.—J. BARTON, Wingrave, Aylesbury. h 56

HEALTHY, VIGOROUS STOCK OF PURE ITALIANS, headed by imported Queen, in Lee's "Holborn" Hive, condition as new, 35s.—PIDDUCK, Sunnyside Apiaries, Alsager, Ches. h 45

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CYCLE, Premier, lamp, and carrier, 35s., in use; a bargain to working Bee-keeper.—BURGESS, Wenden, Saffron Walden. h 30

31ST YEAR.—Queens, imported, Italians, Golden, Carniolans, 6s. 6d.; British or Hybrid, 3s. 6d.; 3-Frame Nuclei, any variety, Queens, Swarms.—E. WOODHAM, Clavering, Newport, Essex. h 29

QUEENS, choice 1908 bred from my Non-Swarming Stocks, 3s. 6d. each, safe arrival guaranteed.—TAYLOR, Hollyhurst, Boldmere-road, Wylde Green, Birmingham. h 23

SECTION GLAZING.—Best quality Lace Paper, made especially for Bee-keepers' use, not common box edging, white, 100 6d., 300 1s. 4d., 500 2s. 3d., 1,000 3s. 9d., post free; blue, green, or pink, 100 7d., 300 1s. 6d., 500 2s. 6d.; Lace Bands, 2⅜in., 3in., and 3⅝in. wide, white, 100 1s. 2d., 200 2s. 3d., 500 4s.; a few in pink and blue, 100 1s. 4d., 200 2s. 6d.—W. WOODLEY, Beedon, Newbury.

QUEENS.—Doolittle strain. What are they? They are Bees bred by selection for over 30 years from Ligurian stock, bred (1) for their energy and working capacity; (2) mildness of temper; (3) colour. They are well-marked Bees, and Golden Queens, and were bred by G. M. Doolittle, the originator of the system of Queen-rearing on which all modern systems are founded. Fertiles, 5s.; Virgins, 1s. 6d.; few Second Grade Fertiles to spare shortly, equal to First Grade in all respects save colour, having been hatched during cold snap, 3s. each. Orders executed in rotation.—D. TAYLOR, Ilminster. h 27

STRONG NATURAL SWARMS, warranted healthy, 12s. 6d., packed, safe delivery.—CADMAN, Codsall Wood. h 36

HONEYCOMB.—Wanted, new Sections, first quality, prompt cash.—Write first to K 731, care of Shelley's, Gracechurch-street, E.C. f 91

NEW HONEY BOUGHT IN ANY QUANTITY for prompt cash; packages sent for it if desired. Best price quoted on receipt of sample. State quantity.—SPRING AND CO., LTD., Brigg, Lincs. h 32

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PROTECT YOUR FRUIT.—Tanned Garden Netting, only best quality supplied, 25 yds. by 8 yds., 50 yds. by 4 yds., and 100 yds. by 2 yds., 9s. each.—L. WREN AND SON, 139, High-street, Lowestoft. f 70

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QUEENS.—Carniolan Hybridised either with English or Italian Drones, whichever preferred, by special process, 5s. each.—S. J. BALDWIN APIARY, Bromley, Kent. g 32

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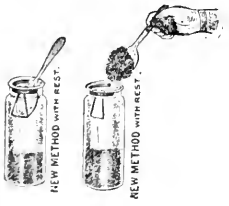

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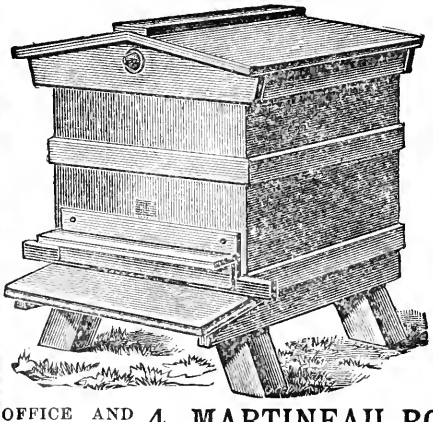

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ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR

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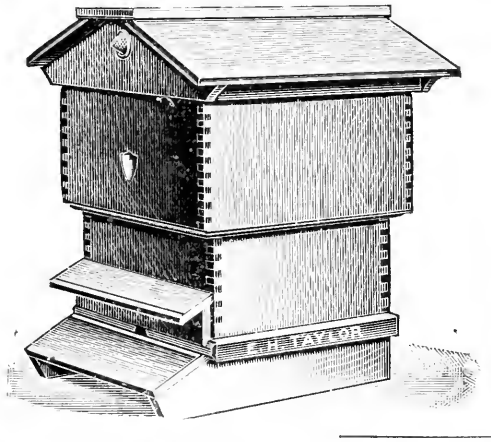

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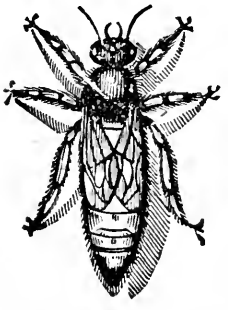

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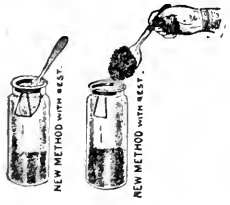

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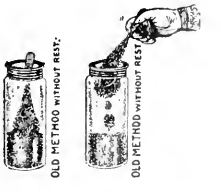

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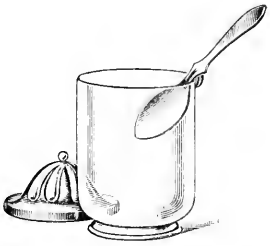

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In order to induce Bee-keepers to compete for the liberal prizes offered, the entry fee has been fixed at One Shilling in each class.

Editorial, Notices, &c.

CONGRESS OF BEE-KEEPERS.

(*Continued from page* 274.)

Mr. T. W. Cowan said he was pleased, on behalf of the British Bee-keepers' Association, to welcome their French and Colonial friends, especially their French colleagues, and he hoped they would carry away with them a pleasant recollection of their visit, and thus further strengthen the *entente cordiale* that happily existed between the two countries, and which was evidenced by their fine collective exhibition, in one of the palaces of which they were taking part. The object of the Congress was to exchange ideas and discuss various topics of interest to bee-keepers, and thus further the interests of the industry. At present the annual importation of honey exceeded £30,000, which was in itself sufficient evidence that the production in the country could be very much increased. He also said that they were very much indebted to Lord Avebury for doing them the honour of presiding, and for the admirable address he had just delivered. Lord Avebury was so well known the world over for all that he had done for science that his presence there would give pleasure and encouragement not only here, but also on the Continent. On behalf of the B.B.K.A. he heartily thanked Lord Avebury for his presence and address.

M. E. Sevalle, Secrétaire Général de la Société Centrale d'Apiculture of France, who spoke in French, said: I am very happy to be here as the interpreter of the French bee-keepers, not only to thank the British Bee-keepers' Association and its devoted chairman, Mr. Cowan, for his friendly invitation, but also to hail in the name of the French the great and learned Lord Avebury, who is presiding at the opening of this Congress, whose fine works are so well known abroad. If the *entente cordiale* has been able to bind the English and French people closer together, it was not necessary on behalf of the bee-keepers of the two countries, whose cordiality in regard to bee-keeping, through your chairman, has already existed for a long time. Nevertheless, we all hope that this Congress and the contemplated excursion will render this union even closer.

Mr. Albert H. Benson, Queensland, Australia, spoke as follows:—As the representative of Queensland, Australia, I beg to thank the British Bee-keepers' Association for the invitation to attend this Franco-British Conference of Bee-keepers, and for the pleasure and instruction that I have derived through listening to the address of welcome so ably delivered by Lord Avebury.

I am sorry that the State of Queensland is not represented by a practical apiculturist, my speciality being fruit, not bees, but fruit-growing and bee-keeping are to a certain extent kindred industries, the orchardist being considerably benefited by bees in fertilising the flowers of certain fruits that would otherwise prove unfertile.

Bee-keeping is carried on in many parts of our State, and were we assured of a steady market our honey-production would be considerably increased, the conditions, climatic and otherwise, of our State being conducive to health in the bees and a good return in honey.

Progressive bee-keepers are well up to date in their business, keeping themselves in touch with the newest appliances in apiculture by means of the American and English bee-journals as well as by departmental and local journals.

Some excellent honey is produced in Queensland, especially that obtained from the flowers of white clover, lucerne, orange, scrub-box, and the white and yellow box-trees of the table-lands. Some of the flowering trees and plants, however, produce a strong-flavoured honey, but none produce a honey with a strong eucalyptus flavour, a reproach that is unjustly applied, not only to Queensland, but to Australian honeys generally. The flower of no species of eucalyptus with which I am acquainted contains a trace of the flavour of eucalyptus, as the essential oil that gives that flavour is obtained from the leaves and not from the flowers, and, so far as I know, bees do not gather honey from leaves. The objectionable eucalyptus flavour is obtained by adulterating the honey with oil of eucalyptus obtained from the leaves, such adulteration being made, not by bee-keepers, but by those who sell honey to the public. I desire to make this point very clear, as there is a general impression that all our honeys have this objectionable flavour, and this false impression has a very detrimental effect on the value of our honey.

I have had opportunities of tasting honey gathered from heather in Scotland, from white clover in England, and from white sage in California, and, as far as my judgment goes, the honeys in Queensland equal in flavour any of these celebrated brands that I have mentioned. Even with the low prices frequently obtained for our honey, the industry, when carried out on the right business lines, is a fairly profitable one, as in normal seasons there is a good flow of honey resulting in a good yield per hive. In addition to those who make a speciality of apiculture in Queensland, bees are frequently kept as an adjunct to the farm, orchard, or garden, and when this is the

case they not only supply all home requirements, but are a source of profit as well.

Major A. E. M. Norton, D.S.O., F.R.G.S., Commercial Agent for the Government of South Australia, was the next speaker. He said:—My Lord, Ladies, and Gentlemen,—I feel honoured that I have been privileged to attend this important Congress, and particularly that I have had the opportunity of listening to your lordship's most instructive and interesting address. Like several others that were at one time considered minor industries, bee-keeping is fast becoming one of considerable commercial importance in South Australia. The time is not far distant when it was thought that owing to the supply of honey being greater than the demand the bee-industry must be crushed out of existence by its own weight, our market being limited to the Commonwealth. Shipments of honey had been sent to England, but unfavourable reports were sent back to the effect that the eucalyptus flavour characteristic of Australian honey would for ever exclude it from the English market—in short, we were told that the British public would not have it at any price. However, South Australia is blest with a progressive Government and an enterprising bee-keepers' association, and a small rebuff like this did not daunt them. It was determined to exploit the home markets in a thoroughly practical way, and a consignment of honey was accordingly sent here about eighteen months ago. Exhibits were made at various shows throughout the country, where small samples and pamphlets setting forth the merit of our honey were given away. The honey referred to being supplied by the bee-keepers' association, the necessary funds for preparing and distributing the samples were supplied by the Government, and as a result four of the most important retail firms in London are at the present time stocking South Australian honey, one firm alone having a standing order with the South Australian Bee-keepers' Association for seven tons monthly.

Now it is possible that some of my English and French friends here may look upon this new source of supply with alarm, but I maintain that the more we can popularise honey as food, rather than let it remain as heretofore as a luxury, the better it will be for all concerned in the industry. In Australia honey is already looked upon as a necessary and healthful article of diet, but from what I can gather in England it would appear that it was a luxury only for the few. I am told that we in Australia with our four millions or so of population use more honey as food than is consumed throughout the whole of Great Britain.

My Lord, Ladies, and Gentlemen,—If I began to say anything about practical bee-keeping, you would no doubt soon be aware that I know nothing about it. I have, therefore, confined my remarks to the commercial aspect of the product of that important little worker the bee.

The bee-keepers of South Australia, like most of the primary producers in that part of the world, are intelligent men, and are ever ready to learn what is going on outside their own little sphere, and for that reason I am pleased that you have permitted me to be present, because I shall forward through my Government to the Bee-keepers' Association much of the valuable information I shall hope to gather here. To my mind, the opportunity of an international exchange of ideas is a most important factor in any industry, and no doubt many points in connection with bee-keepers that in the past have been undecided will be settled satisfactorily. On behalf of the State I have the honour to represent, I wish this Congress and the bee-keepers' associations of England and France every possible success.

Mr. H. C. Cameron, Produce Commissioner for the New Zealand Government, said:—

My Lord Avebury, Ladies, and Gentlemen,—It is with very great pleasure that I have the honour of being present to-day to take part on behalf of the New Zealand Government in the Franco-British Congress of Bee-keepers.

Like the Australian States mentioned by the previous speakers, the Dominion of New Zealand is greatly interested in the subject of apiculture; so much so, indeed, that the Government has passed an Act of Parliament called the "Apiaries Act" to encourage and protect the bee-industry there. The clauses in this Act may possibly appear somewhat drastic to you in this country. For instance, inspectors appointed under the Act may enter upon any premises or buildings for the purpose of examining bees, hives, or bee-appliances, and if in any case disease is found which, in the opinion of the inspector, is so far developed as to be a danger to neighbouring bee-keepers, he may direct the whole of the bees, hives, and appliances so affected to be destroyed by fire, and no compensation for such destruction is allowed. Then no bee-keeper is allowed to keep bees except in a properly-constructed frame-hive.

The New Zealand Department of Agriculture takes the greatest interest in all pertaining to bee-culture, and, as I see from the leaflet that has been handed to me, its aims are similar to those of the British Bee-keepers' Association. Although the bee-keeping industry in New Zealand is practically in its infancy, and

though there is as yet scarcely any export of honey to this country, the consumption on the spot being equal to the supply, considerable improvement has been attained in the quality of the honey produced. Such lots as have been shipped to London have met with high approval and have commanded top prices.

There is now in the New Zealand Pavilion at this Exhibition a very fine exhibit of the honey produced in the Dominion, and should any of you find time to inspect it I shall be greatly pleased, and can assure you your visit will be heartily welcomed.

The New Zealand Government has also given attention to the breeding of queen-bees. A race of first-class honey-gathering bees, possessing disease-resisting qualities, is being bred on one of the Government experimental farms. These queens will be available for distribution amongst the bee-keepers of the Dominion.

I think from these few remarks that it will readily be understood that the Government of New Zealand is very closely concerned in the particular work which is of interest to this Congress, and it is therefore with very great pleasure that I am here to-day in order to offer hearty support to the *entente cordiale* with which this great Exhibition is so closely concerned. Any particulars I can afford will therefore be freely given, and at the same time such information as I may be able to gather from the Congress will be heartily welcomed as being of assistance in furthering the work of bee-culture in New Zealand.

Mr. F. R. Benhne, president of the Victorian Apiculturists' Association and representative of the Department of Agriculture of Victoria, Australia, expressed his pleasure in being present, and his thanks for the opportunity offered to meet so many prominent British bee-keepers under the presidency of so great an authority on insect life.

Lord Avebury then left the hall, after calling on Mr. T. W. Cowan to take the chair, the latter presiding for the rest of the meeting.

The second subject on the programme was

ON THE CHOICE OF A HIVE,

introduced by Mr. W. F. Reid, F.T.C., F.C.S., who said:—One of the first considerations in choosing a hive must necessarily be the climate of the neighbourhood in which it is to be placed. This brings us at once to the question of the material of which the hive is constructed. Probably the original material in which bees made their dwellings was wood, and some of the earliest artificial hives of which we have accounts were made of the trunks of trees. The Romans, before the Christian era, used hives of this kind, with adjustable ends, by means of which the cavity could be adapted to the number of bees or to the quantity of honey, and by removing which the comb could be extracted. Roman bee-keepers also had hives made of cork, and these are specially recommended by Pliny. Where timber was scarce, hives were made of twigs plastered with clay, and such hives are used in Servia at the present day. From very ancient times hives have been made of pottery. In Egypt these have been in use for several thousand years, and they are common in the East. The combs are removed from the ends or from either end alternately, the hives being cylindrical, and placed horizontally. An ordinary drain-pipe of about 9 in. or 1 ft. diameter makes a fairly good bee-hive, and the outer combs containing the surplus honey may be removed with very little trouble and without injury to the bees. Materials of the most varied character have been at times suggested and used as habitations for our busy workers, and the choice which they themselves sometimes exercise shows that they are by no means prejudiced. Like their near relatives the wasps, they will accommodate themselves in holes in the ground, especially where trees and houses are scarce. They will even establish colonies in such apparently uncongenial places as the skull of an ox; in fact, every bee-keeper of experience can relate instances of swarms establishing themselves in the most unexpected positions. The bees themselves, therefore, are not particular in the choice of their dwellings, and the bee-keeper has a wide range of materials with which he can construct his hive. Two properties are essential in any material used for hives: it should be nearly impervious to moisture and a bad conductor of heat. Metals, for instance, although they satisfy the first condition, fail in the second; and, although under favourable conditions a stock may be wintered in our climate in a hive made of galvanised iron, yet a colder climate would render this impossible. Wood, the original hive material, appears to possess special advantages, but we must not forget that these are allied with certain defects which often cause the bee-keeper trouble. It is prone to decay and easily warps and cracks if exposed to the weather. Although cheap in the first instance, the necessity for protecting wood by means of coats of paint, which are themselves perishable, and require constant renewal, renders this original cheapness somewhat illusory in the long run.

The advances of modern science have rendered accessible several mineral materials which have the advantage of not being liable to decay. First among

these may be mentioned glass, which has the additional advantage of being transparent, and of allowing the bee-keeper to watch the proceedings of his bees, as is so often done in observatory hives. If, however, sheet glass be used, the durability of the hive depends upon that of the wood which forms the framework. Glass vessels can now, however, be obtained moulded in one piece with sufficient accuracy to fit the standard frames, and Mr. Reid mentioned that he had several such in use. A word of caution is, however, necessary in the case of glass on account of the facility with which moisture condenses on its internal surface. Provision must be made for draining off this moisture from the bottom of the hive; otherwise great loss of bee-life may ensue. A layer of two or three inches of peat dust at the bottom of a hive is an excellent absorbent of such moisture, and at the same time acts as an disinfectant and prevents mouldiness.

Pottery has the same defect as glass in this respect if glazed and impervious to water. The porous variety, however, is more suitable for a bee-dwelling, and has stood the test of many centuries. The difficulty, however, is to secure sufficient accuracy of shape to suit the standard frame.

Another material which has proved serviceable is uralite, which is made of sheets of asbestos hardened by means of a solution of silica. It is made in sheets which can be sawed and nailed like wood and possesses sufficient porosity to prevent condensation. Like glass, it requires a framework of wood, but is itself quite indestructible, and is the best material for covering floor-boards and alighting-boards as well as roofs.

Hives of brickwork, masonry, &c., have been used from time immemorial, and the bees themselves often choose hollow walls for their abode, and live in them for many years. The Latin author Columella refers to brickwork hives, but does not recommend them, as they are not portable and cannot be sold like other hives. We have, however, a substitute for brickwork which in its most modern form is well adapted for hives. Concrete made with Portland cement can be moulded with accuracy into any desired shape, and is quite permanent if the cement be of good quality. In the form of armoured concrete it is light and portable and worthy of the attention of modern bee-keepers.

Whatever may be the material of which the body of the hive is constructed, the roof must be absolutely watertight. Against cold bees can protect themselves by clustering closely, but against moisture they are powerless. Wood keeps out the wet so long as it is sound and does not rot or crack, but it requires painting at regular intervals, and even when well painted outside may rot inside from the condensed moisture. Fabrics painted with oil paint are sometimes used to protect the wood, but no linseed oil paint is permanent, and such roofs only remain watertight so long as the painting is repeated every two or three years. Perhaps the best covering of those in common use is thin sheet zinc fastened upon wood. In winter much moisture may condense underneath the zinc and may rot the wood unless provision be made for carrying it off.

Having considered the materials of which the hives may be constructed the next question that suggests itself is the relative positions of the surplus and brood-chambers and the size of the latter. In this country we have the inestimable advantage of a standard frame, and, although there are many who favour larger dimensions, and many foreign frames are actually larger than our own and give good results, yet this subject is too wide for discussion at present, and we will assume that a hive should be so constructed as to take frames of standard dimensions. Increased space may be obtained, if desired, by increasing the number of frames, and in this way a hive may be constructed of one story, and the surplus removed from the sides. In former times many different kinds of hives with side-chambers have been introduced; but in this country the overwhelming majority of bee-keepers place the surplus-chamber above the brood-chamber, and most of them use a queen-excluder to prevent brood-rearing in the upper chamber. This position has the great advantage of easy accessibility, and duplication of the upper parts can take place with a minimum of disturbance to the bees.

These appear to be the main points to be considered in the choice of a hive, and there are so many hives in the market that conform to most of the conditions that it would be invidious to select any by name, the more so as they are fully described in the excellent guide-books which every bee-keeper has available.

It is to be hoped that our French colleagues will give us their experience as to the best conditions under which bees may be kept in their climate, which differs so materially from our own.

(*Report continued in our next.*)

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of June, 1908, was £3,753.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

THE "ROYAL" SHOW AT NEWCASTLE

(*Report concluded from page* 276.)

The class for collection of hives and appliances was, as stated last week, a good one, the awards clearly defining the merits of each of the four collections staged.

The single-hive classes also maintained the prestige of the competing firms, the awards going to hives of excellent workmanship, good material, and embodying the accuracy of internal fittings, which ensures success in practical manipulations. Messrs. Abbott Bros. again took first prize with their well-known "W. B. C." hive, which won at Lincoln (last year's) "Royal" show, Jas. Lee and Sons' hive being a good second as before; the third prize going to Abbott Bros. for a hive of similar construction to their first, with the addition of a projecting flight-board, with wind-guard, protecting the bees when returning homewards in windy weather. The only objection to this is that some will consider the length of the flight-board would be apt to get in one's way at times, when a trip-up might possibly have serious consequences. Messrs. Lee and Son were also awarded a v.h.c. for a very good hive with several novel features, very helpful to ventilation and in other ways. Mr. E. H. Taylor secured a h.c. for a dovetailed hive of good type, very cheap at the price quoted.

The cottagers' hive class only produced a small entry, Jas. Lee and Son taking first with a remarkably good hive, with a floor-board of novel construction, which served the purpose of a stand, and by simply reversing it formed a space below the frames in winter. An excellent idea, with no complications or loose parts. The second prize went to Mr. E. H. Taylor for an exceedingly cheap hive at the price, Mr. W. P. Meadows taking third for one of his well-known cottagers' hives, suitable for use at the heather.

In the class for honey extractors Mr. Meadows, as usual, secured both first and second prizes for excellent machines—a "Cowan Rapid" and an "Improved Guinea" respectively.

In the class for new appliances connected with bee-keeping eight entries were staged, the first going to Mr. Meadows for a wax-extractor and honey-press of good workmanship, and a decided improvement on the well-known "Gerster." The same exhibitor also took a well-earned second prize for an improved "Rymer" press. Abbott Bros. were third with a most useful article in the shape of a honey-spoon, so simple in construction and effective in use that it seems strange that no one had ever thought of it before, it being helpful to housekeepers in a score of ways for table use.

The honey and miscellaneous classes were, as stated last week, considerably below those of the previous years' shows of 1906 and 1907, the entries confined to the Northern divisions of the country being almost wholly made up of last year's produce. The samples, however, were well preserved, and looked very attractive, the granulated honey being of capital quality. Coming further south (classes 452 to 456) it was soon noticeable that honey of the current year predominated, Richard Brown and Son securing first prize in three of the four classes, and a good second in the remaining one. The shallow-frames for extracting were only moderate in quality. We were glad to see some excellent specimens staged in the class for heather honey in 1 lb. jars, all the samples being good. The first prize went to Ayrshire, N.B., the second to Derbyshire, and the third to Yorkshire, with a highly commended to Derbyshire.

The class for "Heather Mixture" honey was also a good one, samples being staged from Devon, Yorks, Staffs, Derby, Notts, and Surrey.

In the trophy class the first and second prizes went to Yorks and Derby (Mr. Dixon and Mr. Pearman) for trophies presumably more "attractive" than the fine collection of this year's honey staged by R. Brown and Son, who evidently relied on the quality of the honey staged rather than the decorations.

Among the miscellaneous classes, in that for beeswax in cakes, shown for quality, eight entries were staged, the winning samples being good and the prizes well-earned. In the class for wax in cakes suitable for the retail trade the prize went to exhibits of the right sort, though some of the unplaced ones were far behind show-bench standard.

The only other class requiring notice was that for exhibits of an interesting nature connected with bee-keeping; an extensive collection of tin goods and various appliances used by German bee-keepers was placed first, though most of the goods were merely interesting as showing the difference between British and German methods. Mr. Dixon took second for honey, confectionery, and sweetmeats.

CRAYFORD AND DISTRICT B.K.A.

Whilst matters appear progressing but slowly and indefinitely with regard to the resuscitation of the Kent B.K.A., it may be interesting to record that the above association now numbers over seventy members, and that a series of four outdoor lectures by Mr. W. Herrod are taking place the last Saturdays in May, June, July, and August in the grounds at Orchard House, Crayford (by permission of the president, E. R. Stoneham, Esq.), at 4 p.m. The first two lectures were attended by about sixty members and

visitors on each occasion, and drew from the lecturer the remark that in all his experience he had never seen so many ladies at a similar gathering. I have frequently noticed in your columns replies to bee-keepers in and about this district and its adaptability for bee-keeping, but as only initials are given one cannot get in touch with them or point out the advantages of joining our association, or even offer advice; but, should any wish for particulars, and will write to the secretary, Mr. J. M. Bates, Slades Green, Erith, or to myself, they will be sent by return of post.

Our honey show takes place on August 29, and will be advertised in due course in your columns.—V. E. SHAW, Bexley, Kent.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

SOME SEASONABLE NOTES.

[7166.] *Separators.*—For securing good and efficient results these are indispensable in working for sections. Without them there will be a large proportion of light, thin sections, weighing perhaps 10 oz. or 12 oz. upward, and there will be a very considerable number irregularly built and bulging, many of them weighing up to 1½lb. They look anything but enticing in either shape, and sell badly. Then, when crating, both classes pack badly; in nine cases out of ten injuries of a minor or major nature result, causing the merchant to forswear the future acceptance of consignments from any but reliable apiarists. If it were only known, great injury is done the craft by these unsightly "chunks" of honey-comb. Separators should be well dried before being inserted between rows of sections; they should be clean from stains, well dusted, with no remains of old brace combs, and all should be free from twisting and buckling. If racks are no more than scant 12¾in. many separators require force to insert them, and then there follows a bulging of the tin, producing a thick and a thin section, with an almost dead certainty of a connective prop or brace-comb, and this is nearly always followed by broken cells, running honey, and general mess when clearing out the sections. Thin wooden dividers very frequently bend and buckle as a result of the heat of the hive. When corners break off there is generally a ridge or bulb on the finished section. Be very particular with your separators if you desire to have a highly-finished article.

Painting Hives.—A good part of the so-called white lead paint sold in lever-lid tins is very inferior stuff. I have had some which, in a very short time, coloured my dark clothing white every time I happened to rub up against a hive. When lifting off the roof the hands were coated with a powdery mass, and soon with much rubbing the wood showed through. Another kind of paint scales off, leaving the hives all pitted and spotted, which show off badly after several paintings. It may be possibly my own fault, but I blame the inferior paint—not a cheap kind, but that sold as the genuine article and sent out by reputable firms. Very little has been heard lately of the several substitutes recommended at one time or another, such as Carbolinum, &c., but I have lately been advised that Portland cement serves the purpose very well when mixed with oil. It mixes well, can be administered thick or thin, and clings, as might naturally be expected, like a limpet to the rock. I think, however, that generally we do not work our paint sufficiently well before using. There is a fluidity and "vitality" about that made up by a professional painter lacking in what is obtained in tins. It seems to flow from the brush more freely and make a continuous current, instead of showing in breaks and pauses. The greasy look and feel too often noticeable in the work of the amateur are also lacking. Some expert might give a few hints which would remove several of the faults I have noted above, and thus tend to make our hives more like things of beauty.

Bait Sections.—These are being overdone, I fear. A bee-keeper lately wrote me asking if he would be justified in using some which had drone-brood in them last year. He noticed that in general bait-sections were darker than newly-built ones, and looked more like heather ones, even when filled with clover. He almost implied that he sold them as such! This is reprehensible. The counterfeit is not the genuine article, while to sell sections where comb was previously bred in is a sure way to injure the value of even gilt-edged comb-honey, because the purchaser must come to the conclusion that he has been "sold" as well as the honey. Be sure to have all sections held over from last season cleared out by the bees before using them as baits: if done at the end of the honey harvest all the better, but if not then let it be done in early spring. Honey granulated in the comb, if not well cleared out, leaves the seeds of incipient granulation, consequently the current

year's honey granulates quicker if consigned to these cells. And, too, the comb *ages* I think, so that it does not crumble down in the mouth as it should when the honey is being eaten, but leaves some "dross" behind. These sections, too, would be the better by being cut back with a sharp knife to reduce the depth of the cells, and leave the surface even, as in this way the bees are enabled to finish them off better and make them more presentable.

Re-queening.—This is a never old, ever new subject. Now and for some time the flow is on, and hives should not be disturbed and pulled about unless there is a very manifest cause. A queen shows her failing powers best at a later period than the full honey flow, so supersedure should take place then, and not now. Queens can be purchased cheaper, nuclei can be use to requeen and strengthen, and young queens are at their best to leave a choice lot of brood late in autumn, when they are placed at the head of a strong stock just after the heather flow is all but over. My meaning might perhaps have been made clearer. In spring a weak stock is often so in spite of a prolific queen. During a good flow a queen which does not keep up the pace deserves to be decapitated. Test the results therefore under the most favourable circumstances before you set down your queen as a failing one. Then act as the dictates of reason decree, and retain no inferior queen to head a stock in a future year.

Bee-Pest (Ireland) Bill.—Amongst the Bills the Prime Minister on Friday, the 10th, deemed it "desirable to pass," was this one, and under the charge of Mr. T. W. Russell it passed the second reading unopposed.—D. M. M., Banff.

BEES AND FORMIC ACID.

DR. VON BUTTEL-REEPEN ON MULLENHOFF'S THEORY.

[7167.] On page 203, B.B.J., May 21, when discussing the idea that formic acid is communicated by means of the worker's sting to honey stored in the cell and ready for sealing, I questioned the accuracy of a passage in the English translation of Dr. von Buttel-Reepen's treatise, as lately published by Messrs. Root, under the title, "Are Bees Reflex Machines?" It ran thus: "Müllenhoff's statement that, in the cells thus formed, a 'drop of the secretion from the poison gland' is added for the preservation of the honey 'gathered not for immediate use,' is anthropomorphically quite clear, and does not correspond with the facts in the case." Mr. Cowan has kindly supplied me with the original, and I find that, as will sometimes happen, the translator has gone astray in unduly introducing a long scientific word—in this case *anthropomorphically* for the German *menschlich*. The author might be better rendered:—"From a human point of view (Dr. M.'s idea) is quite intelligible, but [not *and*] does not correspond with the facts in the case."

I have much pleasure in recommending Messrs. Root's edition to all who are interested in the scientific side of bee-keeping. It contains about fifty small quarto pages of pleasant and suggestive reading, and can be obtained from the A. J. Root Co., Medina, Ohio, or, I believe, through the B.B.J. office [price 2s. 6d., including postage.—Eds.]. Its price on the other side is 50 cents.—H. J. O. Walker, Lieut.-Colonel.

WEATHER IN SWITZERLAND.

[7168.] If you complain about having 10 degrees of frost on April 25 it is nothing to what we have experienced, for on May 23 there was a heavy fall of snow in some parts of Switzerland, which has been a veritable disaster, crushing the standing crops and breaking the fruit trees. Fortunately, we in Nyon and Geneva have escaped, and at Gryon there was little damage. A few days ago a heavy fall of hail devastated Coppet and Commugny. The fall of snow on May 23 was preceded by exceptionally hot weather for the season.—Ed. Bertrand, Nyon, Switzerland.

[In the July number of the "Bulletin de la Société Romande d'Apiculture," M. Gübler says:—"We are passing through an extraordinarily capricious season. One day in May we were treated to tropical heat and next day stoves had to be lighted. The observation station at Preveranges registered on the 21st a temperature of 82.4 degrees Fahr., and on the 23rd only 39 degrees. The 23rd and 24th were disastrous days. In many places, even in the plains, a layer of snow from 4 in. to 12 in. in depth covered the country, breaking fruit-trees, grape-vines, and crushing the splendid growing crops, which considerably reduced their flowering. The poor bees were in a bad plight, many of the colonies driving out the drones, and doing this just at the time that sainfoin was beginning to flower."—Eds.]

"PRICES OF HONEY."

[7169.] Referring to a letter in your issue of June 25 (7159, page 254), over the initials "B. B. B.," headed as above, I also should like to enter a protest against foreign honey being advertised in the B.B.J., unless the country of origin is stated. Buyers seeing this advertisement in a paper devoted solely to the interests of British bee-keeping naturally expect it

to be English. I am strongly of the opinion that the appearance of this advertisement in its present form is prejudicial to the best interests of bee-keeping in this country. I have consulted several prominent bee-keepers before writing this, and they have, one and all, entirely agreed with me. I hope it will not be considered that I am writing this in an unfriendly spirit, but I have thought it right that someone should speak out on the subject. —ERNEST WALKER, Knowlehill Cottage, Cobham, Surrey.

[We fear our correspondent misses the point of the letter to which he refers. As we read it, the complaint of "B. B. B., Royston," is against the "middleman," who is "allowed to advertise honey in bulk at 48s. per cwt.," and he grounds his complaint on the fact of considering that 48s. per cwt. is under "a fair price." That is, of course, a matter of opinion into which we need not here enter. On the other hand, we claim that the B.B.J. can never be justly charged with doing anything detrimental to honest trading or to best interests of British bee-keeping; but we must be fair all round, and so long as advertisers so word their announcements in our pages that no purchaser need be deceived by what we publish, we cannot refuse to insert them. Both sellers and buyers can protect themselves against loss by adopting our "Deposit System," and if the buyer is satisfied with the goods received the seller gets his cash, but not otherwise. We cannot enter into the possible misdoings of either buyers or sellers; but, as stated above, readers can safeguard themselves by adopting our suggestion.—EDS.]

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

July 22, at Nether Wallop.—In connection with the Horticultural Show. **Entries closed.**

July 22 and 23, at Burslem.—Annual Show of the Staffs B.K.A., in conjunction with the Staffs Agricultural Society. **Entries finally closed.**

July 22 and 23, at Cardiff.—Annual Show of the Glamorgan B.K.A., in connection with the Cardiff and County Horticultural Society. **Entries closed.**

July 29, at Henbury, near Bristol.—Annual Show of Honey and Wax of the Henbury District B.K.A., in connection with the Horticultural Society's Exhibition. Good prizes. 7 open classes, including free entry for single section and single bottle. Schedules of Hon. Sec., F. E. May, Bellasis, Stoke Park, Westbury-on-Trym, Bristol. **Entries close July 22.**

July 29, at Upwell, Wisbech.—Horticultural Society's Show. All exhibits will receive careful attention. Open classes for Honey, including gift class for 1-lb. Jar. Schedules from Hon. Secretary, J. Hy. Inman, Upwell, Wisbech. **Entries invited.**

July 30, 31, and August 1 and 3, at Manchester.—Annual Show of the Royal Lancashire Agricultural Society. Open classes for Honey-Trophy, Sections Extracted Honey, Beeswax, Honey Confectionery, Bee-Flowers, Instructive Exhibits in Bee-Culture, &c. **Entries closed.**

August 3 (Bank Holiday), at Cambridge.—Show of Bees and Honey. Championship Motor and Athletic Sports. Dogs, Cats, Mice, Flowers, Fruit, Vegetables, Poultry, Birds, &c. Fireworks by Pain; the largest and most attractive show outside London. Excursions from all parts. Prizes paid on day of Show. Schedules, Warren, 81, Richmond Road, Cambridge.

August 3 (Bank Holiday), at Clewer, Windsor.—Show of Honey and Appliances by the Windsor Branch Berks. B.K.A., in conjunction with the Clewer Horticultural Society. Schedules from Hon. Sec., Mrs. W. S. Darby 1, Consort Villas, Clewer, Berks. **Entries close July 29.**

August 3 (Bank Holiday), at Melton Constable.—North Norfolk B.K.A. Annual Show of Honey. Schedules from C. J. Cooke, Edgefield, Melton Constable. **Entries close July 25.**

August 5 to 7, at Halifax.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. **Entries closed.**

August 6, at Madresfield, Malvern.—Annual Show of the Worcestershire B.K.A. Open class for 12 1-lb. jars Extracted Honey. Entry forms and schedules from Geo. Richings, 2, Shrubbery-terrace, Worcester.

August 12, at Wye (Kent Honey Show).—Five Open Classes: Trophy, cup value £3 3s. (entry 1s.), 1 lb. Section, 1 lb. Light Run, 1 lb. Dark Run, 20s., 10s., 5s. in each case (entry free); Beginner's Outfit, to retail 30s. (entry free). Fifteen Classes open to Kent: Two Challenge Cups, value £6 6s., and money prizes for 6 1-lb. Sections and 6 1-lb. Jars Extracted Honey. Money prizes for 6 Jars Light, 6 Jars Medium, 6 Jars Dark Extracted Honey, 2 Shallow or Standard Frames, 3 Sections and 3 Jars, 1 Jar Granulated, Beeswax, Mead, Candy, Cake Sweetened with Honey, Display of Cut Flowers, &c.; two Special Classes for Cottagers. Schedules of J. Tippen, Secretary, Wye, Kent. **Entries close August 5.**

August 12 and 13, in The Park, Taunton.—Somerset B.K.A. Annual Show, in conjunction with that of the Taunton Deane Horticultural Society. Increased Prizes. Sixteen classes, including eight open and two free. Schedules from L. E. Snelgrove, Hon. Sec., Cromla, Locking Road, Weston-super-Mare. **Entries close August 7.**

August 13, at Llangefni.—The County of Anglesey B.K.A. Honey Show. Prizes in Open Classes. Single Open Class for the best 6 1-lb. Jars of 1908 Honey, 10s. 6d.; entrance fee 1s. 6d. Two Classes, open to North Wales only, for the best and most attractive display of Honey and Honey Products, first prize £1 1s., second 10s. 6d.; entrance fee 2s. No second prize given unless three or more entries are made. Schedules from Rev. O. Kyffin Williams, Llangwyllog, North Wales. **Entries close July 25.**

August 14, in Public School, Portwilliam, Wigtownshire.—Honey Show in connection with the Horticultural Society. Classes for Sections and Extracted Honey, open to amateurs and cottagers. Challenge Class (open to all) for 3 1-lb. Jars Extracted Honey, prizes 20s., 12s., 8s., and 4s. Schedules from Secretary, Horticultural Society, Portwilliam, N.B.

August 19, at Lancaster.—Honey Show and Bee Demonstration, &c., in connection with the Lancaster Agricultural Society's Show. Open classes. Special prize, including silver challenge cup, value £6 10s., seven silver and bronze medals, &c. Schedules from Thos. Armistead and Son, auctioneers, Lancaster. **Entries close August 5.**

August 19 and 20, at Shrewsbury.—Annual Show of the Shropshire Bee-keepers' Association will be held in the Quarry, Shrewsbury, in connection with the Shropshire Horticultural Society's Great Floral Fête. Eight Open Classes for Honey. Free Entry for Single Bottle and Single Section. Schedules from S. Cartwright, Hon. Secretary, Shawbury, Shrewsbury. **Entries close August 7.**

August 20, at Abingdon Park, Northampton.—Honey Show of the Northants B.K.A. Special prizes for open classes, including one for single 1-lb. jar honey. (**Entry free.**) Prizes 20s., 10s., 7s. 6d., and 2s. 6d. Schedules from R. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 16.**

August 22, at Elworth, Sandbach.—In connection with the Elworth Athletic Club and Horticultural Society's Show. Class for Honey, open to the County of Chester. First prize 15s., second 7s. 6d., third 5s., for twelve 1-lb. Jars Extracted Honey; also Bronze Medal given by the Cheshire Bee-keepers' Association. Entry fee 1s. Schedules from A. E. Wright, Hon. Sec., Elworth, Sandbach. **Entries close August 15.**

August 26, at Chester (Cheshire Agricultural Society's Show). — Bee and Honey Department, under management of the C.B.K.A. Open classes for Hives, Sections, and Extracted Honey. Increased prizes. Members' classes, District class. Special prizes offered by Chester Tradesmen's Association. Schedules from T. A. Beckett, St. Werburgh's-chambers, Chester. **Entries close August 5.**

August 26 and 27, at Solihull, Warwickshire.—Show of Honey, Hives, and Appliances, in connection with the Warwickshire Agricultural Society. Schedules from J. N. Bower, Hon. Sec., Knowle, Warwickshire.

September 3, 4, and 5, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-six Classes (nine open to all). Increased Prizes and Medals. Schedules from F. B. White, Secretary, Marden House, Redhill, Surrey. **Entries close August 22.**

September 5 to 12, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Trades' Sixteenth Annual Exhibition and Market. (See large advertisement on page iii.) **Open to all British Bee-keepers.** Entry fee in each class 1s. Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 5, at Bramhall. — In connection with Bramhall Horticultural Show. Honey Section under management of C.B.K.A. Liberal prize list for Honey, Extracted or Sections, and Wax. Silver and bronze medals for Local Class. Schedules of Mr. J. Sibson, Kitts, Moss Lane, Bramhall, Stockport. **Entries close August 31.**

September 9, at Wilmslow, Cheshire.—In connection with Adlington and East Cheshire Agricultural Society. Honey Section under the management of the C.B.K.A. Bronze medal for District Class. Liberal Prizes. Open and District Classes. Schedules of Mr. J. Sibson, Bramhall, Stockport. **Entries close August 31.**

September 14, at Conway, N. Wales.—Annual Honey Show, in connection with the Conway Honey Fair. Open and Local Classes. Schedules from J. Hughes, Town Hall, Conway. **Entries close September 7.**

September 19 to 26, at the Agricultural Hall, London.—Honey Show in connection with the Sixteenth Annual Exhibition and Market of the Grocery and Kindred Trades. (See large advertisement on page iii.) Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.** Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 23, at Altrincham.—Honey Show in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. Classes for Trophy of Honey, for Best Hive, Observatory Hive with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester, for Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low entrance fees. Schedules from Mr. J. Herbert Hall, 2, Dunham Road, Altrincham. **Entries close September 5.**

Queries and Replies.

[3748.] *Transferring Bees.*—Twelve months ago I had a swarm of bees given me, which I wintered in a skep, and in April purchased a frame-hive and fitted the ten frames with full sheets of brood-foundation. I then placed the skep on top of frames, for the purpose of allowing the bees to transfer themselves, packing the spaces around with pieces of cloth, as directed in the "Guide Book." They did not do as I anticipated, but filled all the frames with honey, retaining the skep as a brood-chamber. Will you kindly tell me in your next issue what is the best thing to do?—AMATEUR, Bridport.

REPLY.—Generally the bees transfer themselves very readily in the manner described, as the honey is usually stored above brood-nest. Your best plan will be to extract all the honey from the combs in the frames, and put them back. Place the skep on the top as before, and next day, when the combs have been cleaned up, drive the bees from the skep into an empty one, watch for the queen when driving, and as soon as she has entered the empty skep, cease the driving. Put a sheet of excluder zinc over the frames, and on this place the skep containing the brood and remaining bees. Then hive the driven bees as recommended in "Guide Book" by throwing them on to a sheet in front of the hive, as shown on page 30. The bees will look after the brood in the skep, and the queen being below, no more brood will be raised above. As soon as all the brood has hatched out in the skep it should be removed.

[3749.] *Second Swarms.*—With reference to second swarms, I should like to inquire: Are they a certainty? Does a second swarm always issue? I had a swarm nine days ago, but there is absolutely no sign of a swarm to-day. The bees are busy carrying pollen, but there are no signs of clustering, nor an unusual number about. It is certainly much colder to-day, and we had rain yesterday, but according to the "Guide Book" weather does not affect "casts."—F. SITWELL, Wooler, July 8.

REPLY.—No; sometimes the first-hatched queen will destroy the young queens in the cells, in which case there is no second swarm. The hives not being crowded, there are no signs of bees clustering as they do before first swarms. Generally a day or two before the issue of a second swarm the queen may be heard piping.

Notices to Correspondents.

*** *Sheep and Bees.*—Referring to the mention in B.B.J. of April 2 last of sheep pasturing near hives, Mr. G. Thomas, dating from Pwllcrochan Rectory, Pembroke, writes:—"I am sorry that, having so much work on hand, I cannot find time to write as I wished for your paper on bee-matters, but with regard to the request for information in April last about the risk of sheep pasturing near hives, I may say I turned seventy-four head of sheep into my apiary last year, and did not see that any of them were stung by the bees, nor was any trouble experienced through them feeding near the hives."

W. E. SITWELL (Truro).—*Feeders and Super-clearers.*—The original "Raynor" feeder illustrated in the "Guide Book" is, we are told, not made now, being superseded by the same idea in cheaper form at about half the price of the original one, for which 3s. was charged. All dealers stock the super-clearer, that fitted with a genuine American "Porter" bee-escape being the best.

G. H. PARKIN (Sheffield).—*Transferring Bees.*—1. We should wait and see if the skep swarms naturally, and if not winter the bees as they now are. It is too late to think of the stock transferring itself to a frame-hive in mid-July. 2. Queens may be purchased for about 1s. 3d. or 1s. 6d. each for re-queening purposes in autumn, when the "bee-driving" season is on.

S. J. FLIGHT (Leatherhead).—*Miniature Bees Cast Out in July.*—1. The "dead grubs" you write of as found on alighting-board in the morning must

have become chilled in the process of hatching. It is not usual for this to happen in such fine weather as the present, when honey is coming in freely. 2. We cannot tell why the bees refuse to enter supers, if the stock is strong and the supers made snug and warm, as they should be. Have you no experienced bee-friend who could examine the bees and tell you why things are not going on well in so good a bee-time as the present?

C. B. COLLINS (Plymouth).—*Cyprian and Syrian Bees.*—The opinion expressed in the "Guide Book" with regard to these bees has been fully borne out by subsequent experience of them. A few years ago Mr. Dervishian, of Cyprus, a queen-breeder of experience, who has a high opinion of the Cyprian bee, if pure and properly handled, made a praiseworthy attempt to introduce them into this country by advertising them extensively in our pages, but we fear his experiment was not a permanent success, though a fairly-good trade was done in them for a year or two.

GRUMBLER (South Croydon).—*Unfair Dealing.*—We fear many other advertisers, including Mr. W. Woodley (whom you name), besides the one whose advertisement is referred to, have been obliged to disappoint customers this season in supplying swarms. It is a fact that many of our advertisers could have sold the few swarms they got many times over, and very few indeed have been able to fill the orders received. The dealer you complain of is to our knowledge a reliable man, and his prompt return of your cash when requested to "send the money back" shows this. If the bees absolutely refused to swarm owing to the peculiar season, the seller could do no more. It was evidently not a question of price at all, and we hope you will in fairness see this as we do.

G. HALL, JUN. (Hinckley).—*Removing Hive to New Stand.*—According to the "Alexander" method, the hive above excluder will contain mostly young bees that have been hatching during the ten or eleven days, so that it does not much matter how far this hive is removed so long as it is on a fresh stand. In any case, the old bees will go back to the old stand.

J. P. F. (Carnforth).—*Bee Appliances.*—1 We are not dealers in hives or bee appliances. Write to any of our advertisers for catalogue. 2. You have been misinformed as to our having supplied hives to the York Training College, as we have never done so. 3. We do not recommend a second chamber below brood-nests in hives.

C. B. H. (Leicester).—*Building Up Stocks with Driven Bees.*—1. If you can get two or three good lots of driven bees joined together early in the autumn, and feed them liberally after hiving, they would make a strong colony, and have an advantage over a swarm of next spring. 2. Yes, if treated as recommended in "Guide Book," page 151, where you will find full instructions for "Building Up Stocks" in this manner. 3. Yes.

Honey Sample.

IDELA (South Herefordshire). — Honey is of good quality of a rather deeper golden colour than is usually seen at our big shows, but should stand a good chance at an ordinary show. Probably gathered from charlock.

Suspected Combs.

W. H. W. (Harlington).—No disease in comb, which is filled with honey (apparently just gathered), except three or four cells containing chilled drone-brood.

L. L. E. (Llanidloes).—The few cells which contain dead larvæ point to "black brood" in initial stage being the trouble in your hive, but cells are mostly filled with honey and fresh pollen. If stock is working well, leave them alone for the present, and carefully examine at end of season to see if disease has made any advance. Bees may cure it themselves in the meantime.

S. G. (Ottery St. Mary). — Comb is slightly affected with foul brood in mild form, nearly all the larvæ in cells being chilled only.

BEE GARDEN (Oxon).—There is no foul brood in any of the samples of comb sent. Some of the brood appears to have been chilled.

OXON (Clanfield).—The disease is not foul brood, but what is known as "sour brood." It is described in "Guide Book," page 183.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

3-BAR FRAME HIVES, not used, cheap. — 28, Cold Bath-road, Harrogate. h 76

STRONG, HEALTHY SWARM AND CAST, in Skep and Box, 15s.—HIGGINS, Ivy Dene, Neath. h 58

SECTIONS FOR SALE, 8s. per dozen.—C. EDE, Apiary, Oakington, Cambs. h 59

ENGLISH BLACK VIRGINS, specially selected, celebrated working strain, 1s. 1d.; Fertiles, 3s. 6d.; Hybrid Italian Virgins, 1s. 1d.—FLUDDER, Alresford, Colchester. h 74

300 BACK NUMBERS OF "BOY'S OWN PAPER" FOR SALE, or exchange for Bee Appliances.—A. JENSEN, "Kingston," Parkside-avenue, Hornchurch, Essex. h 75

5 EARLY JUNE SWARMS FOR SALE, in Skeps, 12s. 6d. each.—HALL, Vine Cottage, Monmouth. h 73

WHAT OFFERS IN EXTRACTED ENGLISH HONEY, in bulk or jars, for Violoncello? Will send on approval for cash, Deposit with Editor.—A. DOWNING, Bank-street, Mexborough, near Rotherham. h 71

TO BE SOLD, Apiary of 12 Hives, with Racks of Sections and Shallow Frames on. Extractors, Ripeners, &c., as they stand; also the Cottage to let, 15 miles from London, Surrey.—Box 10, care of "B. B. J." Office. h 72

WHAT OFFERS IN BEES for Lady's 18ct. Gold Watch, in good order? or sell £3. Approval.—GEO. SHAW, 3, Queen-street, Ironville, Derbyshire. h 69

QUEENS.—6 choice Black Virgins, from 6-lb. Swarm, 1s. 7d.; 3 Fertile, 1908, 3s.; 2 Fertile, 1907, 2s.—J. SILVER, Croydon Grove, Croydon. h 60

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WANTED, Secondhand Foundation Machine, or Rollers alone. — Particulars by post to P. CARTER, 66, Loxley-road, Wandsworth Common, S.W. h 64

BE YOUR OWN ELECTRICIAN.—Pair of thoroughly reliable House-Telephones, complete with Wire, Batteries, Pushes, &c. and full instructions for fixing, 26s. 6d., post free. — E. GOLDSMITH, 28, Dunster Gardens, London, N.W. h 63

3-FRAME NUCLEI, with young Laying Queen, 10s.; packages free.—A. BUTLER, Westville, Scotter, Lincoln. h 65

WANTED, GOOD LIGHT SECTION HONEY. State price and particulars for quantities.—TREDERWEN, 3, Weighton-road, Anerley. h 66

Special Prepaid Advertisements.—*Continued.*

28-LB. GUARANTEED PURE SUPER HONEY, from own Apiary, 1908 White Clover and Trefoil Blend, 8½d.; Tins, 1s. 3d., returnable; Virgin Queens, 1s. 6d. safe arrival.—TOLLINGTON, Woodbine Apiary, Hathern. h 67

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SEVERAL MICROSCOPES, by well-known makers, in good condition, great bargains.—L. WAKEFIELD, Blackmore Lodge, Bromsgrove. h 54

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31ST YEAR.—Queens, imported, Italians, Golden, Carniolans, 6s. 6d.; British or Hybrid, 3s. 6d.; 3-Frame Nuclei, any variety, Queens, Swarms.—E. WOODHAM, Clavering, Newport, Essex. h 29

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NEW HONEY BOUGHT IN ANY QUANTITY for prompt cash; packages sent for it if desired. Best price quoted on receipt of sample. State quantity.—SPRING AND CO., LTD., Brigg, Lincs. h 32

SPLENDID WHITE CLOVER HONEY, £3 per cwt. Sample 3d.—ALBERT COE, Apiarist, Ridgewell, Halstead, Essex. h 33

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THE

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

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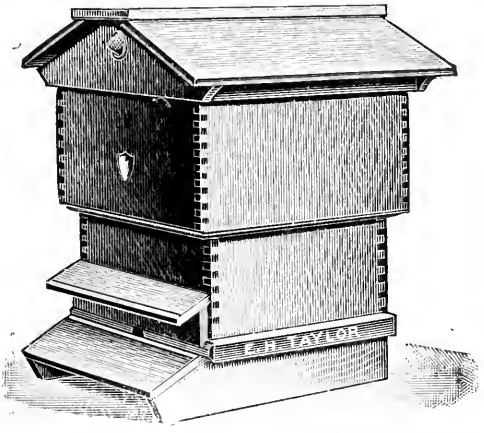

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OFFICE: 8, Henrietta-street, Covent Garden, London, W.C.

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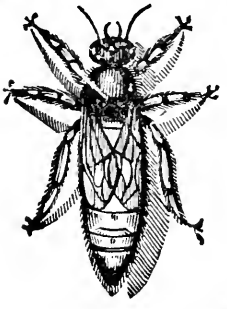

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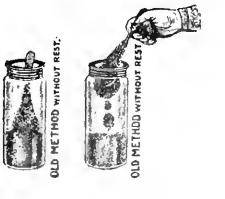

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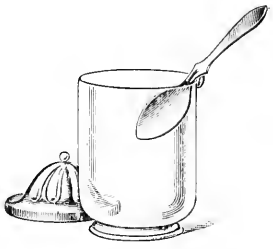

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In order to induce Bee-keepers to compete for the liberal prizes offered, the entry fee has been fixed at One Shilling in each class.

Editorial, Notices, &c.

CONGRESS OF BEE-KEEPERS.

(*Continued from page* 284.)

Colonel Walker commenced the discussion on Mr. Reid's paper by stating that he had himself seen a stock of bees which was dug out of a rabbit-hole. He referred to the apparent want of intelligence in bees in some respects. For instance, in an observatory-hive they were a long time in finding the outlet; wasps appeared to do so more quickly. While the standardisation of frames had been successful, much remained to be done in this respect with regard to hives and appliances. Dummy boards, for instance, from one make of hive rarely fitted another.

M. F. Sevalle considered that a certain amount of moisture was beneficial to bees, and that they should not be absolutely dry. Small hives were most suitable in places where the honey-flow was small and of short duration. Where the honey-flow extended over a longer period the hive should be larger, and in most parts of France he thought the "Dadant-Blatt," with its larger frames, would be more suitable than the English standard.

Mr. A. Richards said that he had hoped to hear which was the best commercial hive in the market. The question of the kind of wood to be used in the construction of a hive was of great importance; he had himself found yellow pine satisfactory. He would like to have some information as to the position of the frames in the hive, whether they should be perpendicular to or parallel to the entrance. The cost of a hive was a point upon which something might be said.

Mr. T. N. Harrison also thought that a recommendation of some definite form of hive would have been more welcome to those present than historical details.

Mr. A. M. Salmon gave the results of a large number of visits made to apiaries in Suffolk. In nearly all cases the hives contained ten standard frames.

Mr. O. R. Frankenstein was in favour of the standardisation of hives, and thought that two standards—one for brood, the other for surplus—might be adopted.

Mr. W. Herrod thought that the opening paper gave a good idea of the evolution of the hive. In buying a hive, a beginner should not place cheapness in the front rank. Double-walled hives, for instance, were far more satisfactory. With regard to the question that had been asked as to the position of the frames in relation to the hive-entrance, it would be obvious that if placed at right angles to the entrance the ventilation would be better.

Mr. T. W. Cowan was of opinion that a standard hive was impossible in this country, on account of the varying conditions in different localities.

He had tried all sized hives and frames, and had come to the conclusion that for all-round work a hive with our standard frame was as good a size as we could have, and was suited for either working for comb or extracted honey. The large hives used in some parts of France are not suited for sections, therefore only extracted honey is produced with them. It did not matter in summer which way the frames were placed, but in winter those at right angles had an advantage, as ventilation was better, and there was less danger of dead bees obstructing the entrance by dropping down across it. With our hives of ten or eleven standard frames bees were induced to take to supers much more readily than in larger hives, where they would be extending the brood when they should be storing in supers.

Mr. W. F. Reid, in replying to the discussion, wished to remind Mr. Richards that this was a Franco-British Congress, and that he had therefore purposely avoided recommending any British hive by name, but had dealt with the general principles that should influence the choice of a hive. British hives were very fully explained in the excellent guide-books on bee-keeping, and the subject might perhaps be a fit one for discussion at a conversazione of the British Bee-keepers' Association, but scarcely at an international conference. With reference to the historical remarks in his paper, they were given because, in his opinion, the experience of many centuries in the use of certain materials of construction was the best possible proof of their fitness for the purpose which was being discussed.

At this stage the chairman announced that since his address in the morning, stating that he hoped the Government would collect statistics, he had received a letter from the Board of Agriculture stating that they had now decided to collect and publish in the agricultural returns statistics in regard to bee-keeping and the production and value of honey. (Loud cheers.)

Monsieur E. Sevalle, Secrétaire Général de la Société Centrale d'Apiculture, Paris, introduced the following subject:

THE CURE OF FOUL BROOD.

As you know, ladies and gentlemen, that terrible malady of bees, foul-brood, prevalent in all countries, and the greatest plague bee-keepers have to contend against, is a disease of the digestive organs of bee-larvæ, and may be caused by three different microbes, namely, *Bacillus alvei*, *Streptococcus apis*, and *Bacillus brandenburgiensis*. The first of

these, *B. alvei*, was discovered by two of your compatriots, Cheshire and Cheyne, in 1883. Numerous experiments have been made in different countries to cure this pest. The remedies tried were usually antiseptics given in solutions, generally in the food prepared for the bees. After discarding many more or less difficult and complicated remedies, those giving the best results have been retained, these being salicylic acid and naphthol beta, which, given in definite doses, have certainly effected cures, but usually only when the disease has been taken at its commencement. When advanced, the disease is recognised sometimes by the putrid odour which emanates from the hive, and by the appearance of the brood-cells, the cappings of which are generally pierced with a small hole in the centre, and also by the decaying of the larva, which on being drawn out of the cell resembles a mass like rotten apricot. Found under different phases it is still one and the same foul-brood, a name first given to the disease by bee-keepers, and which has been adopted by science as correctly describing it.

Notwithstanding the use of the powerful disinfectants which I have mentioned, it was difficult in some cases to ensure a perfect cure, more especially when the disease was not attacked in time, and we were compelled to resort to the sorrowful expedient of destroying both hives and bees in order to prevent the disease from being communicated to neighbouring hives. During the last few years another antiseptic against infectious diseases has been introduced, and applied to bee-keeping promises results which lead us to hope that with it we have a chance of saving diseased colonies, with their hives and combs. This is formic acid, which, curiously enough, is one of the products of bees.

In 1900 for the first time we commenced using bi-formol (formalin or formol), which was vapourised in a lamp known in France as the "Guasco" lamp. This first experiment was made on a hive whose population had died out owing to foul-brood. After disinfection of hive and combs with formol, a fresh swarm was introduced, and its normal development took place without any sign of the disease reappearing in subsequent years.

Since then several trials have been made, notably in the United States, and by means of formalin vapours favourable results have been obtained.

It appears that a 10 per cent. solution of formalin placed in a hive emits vapours which prevent the germination of the spores of *Bacillus alvei*, and is thus able to effect a cure. The bees must first be removed from the hive, which, with the combs, is subjected to disinfection with the formalin, and afterwards the bees can be introduced again. In this way the combs are saved, while all germs are destroyed.

These are only the preliminaries of the experiments, but we hope that good results will be obtained by the use of this disinfectant.

Miss La Mothe said she thought that the only way to treat foul brood was by destruction, and not to attempt any cures, for, owing to the carelessness of bee-keepers, the disease was always likely to break out afresh.

Miss Scott Walker, secretary of the Bucks B.K.A., on the other hand, favoured remedies, and described how she had, with the usual methods recommended, quite cured her brother's bees.

Mr. Harrison said he had seen a lot of stocks destroyed by reason of nothing worse than chilled brood, this being mistaken for foul brood.

Mr. Bullamore thought that bees with weak constitutions were much more susceptible to the disease, which in some cases was inherited, or brought about through the vitality of the bees having been lowered by adverse conditions.

Mr. Silver wanted to know if M. Sevalle could tell them the origin of the disease, because if it were known suitable treatment could be applied.

Mr. Beuhne (Australia) said that from an experience of twenty years he thought that there was no reliable cure by means of drugs of foul brood of a malignant type. Reported cures claimed for chemical treatment were, upon investigation, found to be not really foul brood, but either pickled brood, or brood starved, chilled, or overheated. The malignity or comparative harmlessness of foul brood, however, depended very much upon climatic and local conditions. While carrying on bee-keeping in the moist coastal regions of Victoria he found foul brood a menace, and a disease to be dreaded and promptly dealt with as soon as discovered, and after trying all the different methods and drugs recommended by bee journals from all over the world, he found that the only reliable and satisfactory way was the starvation method, and removal and destruction of combs and cleansing of hives, frames, and fittings. After removal of his apiaries to a dry and warm elevated locality 100 miles from the coast he found foul brood to be much less formidable, the outbreaks decreasing year by year, until during the past three years there had been only two mild cases in 300 colonies. These rare outbreaks occur in colonies of black bees or dark hybrids, a few of which he kept for experiment, all his others being leather-coloured Italians and their crosses. Foul brood was now

with him an insignificant factor, and disappeared without treatment other than requeening the colony with a vigorous queen of Italian blood.

Mr. W. Herrod said: There is no doubt that the drastic measures recommended by Miss La Mothe are quite justified when one has taken work as a touring expert and seen the mistakes and muddle made by the cottage bee-keeper in dealing with disease, though the simplest and minutest details as to the method of procedure have been given to him. Aye, and even by those whom one would expect to know well how to deal with it without instructing, and to understand the great danger of carelessness. I well remember on one of my tours having to deal with a college don, and gave him full instructions how to proceed, and warned him in the most emphatic manner as to the danger of leaving any sweets about in dealing with the disease. Upon my return in a few days I found he had gone all right up to the point of clearing the combs of bees. He was then called away to play tennis, and, instead of burning combs right away, he put them in the cellar and left the window open. When I arrived the bees had complete possession of the cellar, and one can imagine the disastrous results of that one man's carelessness to the neighbouring bee-keepers.

Though drastic measures are undoubtedly the best, I always feel sorry for the cottage bee-keeper in dealing with disease, and regret most sincerely the inactivity of our Government, by whom no recognition of the bee industry is granted, while in every other country the Government takes this industry under its wing and fosters it. In this country it is most difficult to deal with the disease from this cause.

Bee-keeping may be only a small industry with us, but the Government should understand that the few hives of bees owned by the cottager are as valuable to him in proportion as the cattle to the farmer.

As protection and compensation is given to the latter, it is only just that the working man, of which the nation principally consists, should have the same consideration, and be helped to bear his loss in case of misfortune in the shape of disease among his bees. At any rate, if nothing further can be done, provision should be made to help him to detect and deal with the pest by the appointment of inspectors.

In the first place, I may say that in my opinion the introduction of foreign queens has helped to increase disease, and though I may be contradicted in this by some specialist queen-rearers, I do not speak without experience, that experience extending for a period of over fifteen years, most of it spent in touring as an expert in various counties.

If disease is present in an apiary and Italian bees are kept, it is invariably found in those stocks. Again, it is astonishing how ignorant the ordinary bee-keeper is about the appearance of disease and how afraid he is of it—that being a point in favour of eradicating it.

I will go further than Mr. Harrison, and say that I have known stocks to be destroyed that contained nothing worse than pollen and honey mixed in the cells.

Again, the majority of bee-keepers neglect to renew combs in the brood-chamber. If this is done it will help in a great measure to prevent the disease from obtaining a foothold. The practice with me is to renew two combs in every hive each year, the worst ones being weeded out in the autumn and replaced in the spring. Also the disinfection of hives and appliances is neglected. In all cases, when empty, hives should be scorched with a painter's spirit lamp, whether disease is present or not.

There are two phases of the disease—not two diseases—which have long been recognised in this country, one an incipient one, and the other virulent. With the two speakers who say foul brood is incurable I disagree. Foul brood can be cured, but the present and well-known method is a tedious and expensive one, and one that the cottager would very rarely undertake. After four years' experimenting with formaldehyde and naphthaline I have come to the conclusion that this remedy is satisfactory. In all cases where experiments have been carried out, whether in the incipient or virulent form, the treatment was a success. The simplest plan is to have small tin trays which go in the rebate underneath the lug of the frames, filling these trays once every week with 1½oz. of a 10 per cent. solution of formaldehyde, made by purchasing commercial formaldehyde of 40 per cent., to one part of which add three parts of water, which gives a 10 per cent. solution.

In the hive must be kept a continual supply of three balls of naphthaline. The two working in conjunction effect a cure. With formaldehyde alone the results were not so good. A quicker method is by spraying the combs; but here again we have the difficulty of manipulation. The treatment is also good in the case of black brood, but of this I have not had so long an experience. If the stocks are requeened, so much the better.

Colonel Walker observed that although he quite agreed that in many ways our Government did very little for bee-keeping the example of other countries was quite

against compensation in such cases. Both in the United States and in New Zealand it was considered a public offence to possess diseased stocks, and if after a reasonable warning they were not cured or made away with a fine was inflicted. There was no idea of compensation. He expressed doubt whether the three balls of naphthaline recommended by Mr. Herrod would not be found too strong a dose, but Mr. Herrod in reply assured him that twice that quantity might be used without any ill effect.

In replying, M. Sevalle said they knew no more about the origin of foul brood than was known respecting the causes of human diseases. It was much more prevalent in the South of France than in the North, and they thought the sudden changes and extremes of temperature were predisposing causes. Then along the coast, where they were subject to a moist atmosphere and fogs, the disease seemed to be much more frequent. There were other causes supposed to produce foul brood, but science had not yet determined them.

The Chairman (Mr. T. W. Cowan), in winding up the discussion, said that the virulence of the disease varied in different countries; for instance, in Italy, where it was endemic, it was not nearly so virulent as in other countries where it was epidemic. He would not enter into detail of the different microbes found in foul brood, and would only say that the three mentioned by M. Sevalle appear in different phases of the same disease. The only difference in our treatment and the French is that, after removing the population, they are able to save the combs by means of fumigations with formol; we, on the other hand, recommend destroying the combs by fire, and thus at the same time destroy all the spores they contain. Our combs being smaller, the loss is not so great as it would be for French bee-keepers if they adopted the same plan, hence their endeavour to preserve the combs. We also had in view the large number of bee-keepers who are careless and who might not properly apply the skill necessary for preserving the combs. There was no doubt at all that if our remedies were intelligently applied, foul brood could be got rid of. He could corroborate the statement that diseases had been imported with foreign bees. He had introduced foul brood with Italian bees, and had the disease in a much more virulent form than it appeared in Italy. Constitution had much to do with the development of the disease, as it was well known that some colonies in an apiary were immune, though surrounded by diseased ones. No doubt by proper selection of breeding stock a race of bees could be produced that would, under proper management, be immune to disease.

He thanked M. Sevalle for introducing the subject, which had produced such a useful and animated discussion.

(*Report continued in our next.*)

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held at 105, Jermyn Street, S.W., on Thursday, the 16th inst., Mr. E. Garcke being voted to the chair. There were also present: Dr. T. S. Elliot, Rev. H. R. N. Ellison, H. Jonas, E. Walker, and the Secretary. Apologies for inability to attend the meeting were received from Miss Hall, Messrs. T. W. Cowan, W. B. Carr, R. Godson, A. G. Pugh, W. F. Reid, W. Richards, and G. Skevington.

The minutes of the previous meeting were read and confirmed.

Five new members were elected, viz.: Mrs. Cox, Winterslow Common, near Salisbury; Mrs. L. E. Hamilton, Livonia, Looe, Cornwall; Mr. A. Matthews, 39, Constitution Hill, Birmingham; Mr. Robt. Sutherland, Moretonhampstead; Mr. R. Geoffrey Williams, Hendre, Wrexham, North Wales.

The Finance Committee's report was presented by the chairman, and duly approved.

Judges and examiners were appointed to officiate at fixtures in Glamorganshire, Kent, Norfolk, Nottinghamshire, Somerset, Staffordshire, Warwickshire, Worcestershire, and Yorkshire.

In accordance with the recommendation of the examiner, it was decided to grant a third-class expert certificate to Mr. Lawrence Laver.

Votes of thanks were unanimously passed to the hon. secretary, members of the sub-committee, and other gentlemen who contributed so largely to the success of the recent Congress at the Franco-British Exhibition.

The remainder of the sitting was occupied by the delivery of impromptu lectures by four candidates for first-class diplomas.

The next meeting of the Council will be held on Thursday, September 17.

REVIEWS.

"Die Rassenzucht der Schweitzer Imker," by U. Kramer (published by U. Kramer, Wimbergstrasse, Zurich, price 2.80 francs). M. Kramer, the author of this book on "Race-breeding by the Swiss Bee-keepers," is well known, not only as an expert bee-keeper and the worthy president of the Swiss Bee-keepers' Society, but also as the leader of the movement for the improvement of the native race of bees. He has got together

a number of bee-keepers who are working on definite lines, and they meet every year for the purpose of discussing their work and exchanging experiences. This has been going on now for eleven years under the management of the Bee Society, and after trying all the different methods of queen-rearing they have worked out a plan that in their hands has given some wonderful results. M. Kramer, in this book, which is the most complete on the subject ever published, first discusses the theoretical aspect of breeding, and then goes thoroughly into the practical work, showing minutely how every operation should be performed, and giving the reasons for doing certain things. The book is profusely illustrated with photographs taken from life of actual operations, which very much help in understanding the descriptions in the text.

M. Kramer thinks that the use of sugar and saving all bees indiscriminately has been the chief cause of the native races degenerating, and shows how by using honey and pollen, which are indispensable while breeding queens, and a proper selection of stock, the race can be improved in every way. The chapter on cross, pure and pedigree breeding is particularly interesting, and he shows how in-and-in breeding is detrimental. The 168 pages are crammed full of valuable information, which every one who wishes to work for improvement should know. There is a chapter on the organisation of bee-keepers for co-operative work in breeding and improving the races with rules to be observed, and a syllabus for courses of instruction, which we commend to our bee-keepers. We welcome this work as a valuable addition to the literature of bee-keeping, and congratulate M. Kramer on its production.

"L'Allevamento delle Api Regine," de E. F. Phillips, translated by V. Asprea, published by the Associazione Centrale d'Incoraggiamento per L'Apicoltura in Italia, Milan, price 1.30 lire (1s. 1d.). This is a translation of the pamphlet on "The Rearing of Queen-Bees," by E. F. Phillips, Ph.D., published in 1905 by the U.S. Department of Agriculture. The author discusses the necessity for re-queening, and describes natural and artificial queen-rearing by methods now well known, many of which have been improved upon since the pamphlet first appeared. He justly condemns cross-bred bees when he says: "The necessity of purely-mated queens for breeding cannot be too emphatically urged. The so-called 'hybrids' or mismated queens produce young queens of so much variability in every character that it is very unwise to use them." The translation is faithfully rendered by M. Asprea, and the pamphlet is well illustrated.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

THE CARBOLIC CLOTH.

A NEW SUBJUGATOR.

[7170.] This is the season when bee-keepers who employ a carbolic cloth for subduing their bees will be making frequent use of this appliance. There are, however, many bee-keepers who dislike the use of carbolic acid owing to its objectionable features, and of these its smell, so liable to taint the honey, and its unpleasant corrosive action upon the skin are the chief. For the benefit of my fellow bee-keepers, I should like to describe a substitute for carbolic acid which possesses neither of these drawbacks, and which has, moreover, several other valuable properties besides that of subduing the bees. In order to give it a name, I will call it carbolic-camphor. It is easily prepared in the following way:—Into a 4 oz. bottle put 1 oz. of carbolic acid in crystals (*i.e.*, pure phenol), and add to this 2 oz. of camphor broken up into little pieces. Immediately they come in contact the two solids begin to run into a liquid, and in a few minutes, with a little shaking, the entire mass will be converted into a clear liquid, having a rather pleasant smell in which camphor predominates. A few drops of this liquid sprinkled on a sheet subdues the bees in a wonderful manner.

Undoubtedly the most convenient form of sheet is that which was described some years ago in this journal. It consists of a piece of calico large enough when spread to cover the hive and hang over some few inches on opposite side, and having a round wooden rod tacked on to each end. These not only enable it to be rolled up tidily when not wanted, but also prevent it from being blown about by every puff of wind when in use.

"Carbolic-camphor" will be found a most useful remedy in cases where the harvest-bug is troublesome. This tiny insect annoys its victim by burrowing into the skin, usually round the waist and stomach, where the body is warmest, and there lives, causing continuous irritation, often for several days. A drop of "carbolic-camphor" placed on the spot where the insect has entered will at once kill it and quickly allay the irritation; it is quite harmless to the skin.

There is still another use to which it may be put. Two drops in the tumbler of water used for cleaning the teeth con-

stitutes a most pleasant antiseptic, and imparts to breath (in the language of advertisement) "a delightful fragrance." Bees are particularly averse to the smell of "bad breath," and I believe many a bee-keeper would find his bees much less frequently exhibiting that apparently unreasonable spitefulness which we often hear complaints of in the B.B.J. if before manipulating them he were to thoroughly rinse his mouth with warm water to which has been added *two* drops only of carbolic-camphor.—G. S. N., Godstone, Surrey.

AN ENGLISHMAN IN COLORADO, U.S.A.

[7171.] While seeking change and rest in this beautiful climate, I thought some of the readers of the BRITISH BEE JOURNAL might like to read a few "bee-notes" from an Englishman's standpoint. Let me say, then, we are at an altitude of 6,500 feet, and have continuous sunshine, scarcely any rain, and with snow-capped mountains in view all the time, the snow of which fills the rivers with beautiful water, from which all the land is irrigated. Of course, most bee-keepers have heard of Colorado as a paradise for bees, and so it is; the fine weather and the beautiful flora give them both time and work.

The bee-season is later up in this high altitude than in England. It is now June, and the bees are just about at full strength; in some hives I have found drones, but only a few. Supers are put on in July, and then the bees work hard. Alfalfa and white clover, and the myriads of flowers which continue to come and come, are the bees' glory. There is a weed that grows freely, and furnishes an abundance of honey which is not nice to the taste. It is also noticeable that all the honey is very thick. The American hives are quite strange to look at after being accustomed to our English ones. The honey and the wax are both so beautifully white that one could hardly believe it was honey at all; but the flavour cannot be compared to that of our English honey.

Before I close, allow me to give you a personal experience of American methods for comparison with ours in the old country. The friend with whom I stayed decided to invest in bees while I was with him, as I promised to look after them for a time. I went out some nine miles over mountain roads and purchased thirty colonies of Italians (I have seen nothing else here). I bought the lot for £10, including supers; the usual price is £1 per hive here.

The arrangements were that a well-known bee-man of the valley was to pack the bees safe for transit, and I was to go out and fetch them at night. I arrived at dark, and the bee-man assured me that the bees were secured and safe for the journey. Accordingly I took a team, and packed as many of the hives as could be conveniently got into the wagon, together with some supers. I demurred a good deal on starting at the packing of my American friend the bee-man, but as I was an Englishman and new to their ways I accepted his assurance that all was right. At 11.30 p.m. we were ready to start, and at 2.30 a.m. we arrived home. Then began the work of unloading the bees from the wagon. At this point you may be interested to know what the bee-man's "safe packing" was: he had just tied the hives to the boards with wire, and loosely stuffed rags into entrances, with the result that when we arrived home the wagon was just full of bees! I had to get a tin pan and shovel the bees up in quarts, and throw them out in front of the hives when placed. Of all the experiences I ever had with handling bees that was the queerest; but, strange to say, after being hauled over such rough roads in a springless wagon for ten miles the bees were as quiet as lambs. We finished our task at 5.30 a.m., and next night I started out for another load, and this time packed them in real English fashion, and not a bee escaped. My friends here had a laugh at the "English expert" and his method as being (as they called me) "slow, but sure." Anyway, I would much rather be "English" here. I shall be pleased to answer any questions your readers who are interested may like to ask through your columns while here through the season.—(Rev.) W. HENRY COLLINS (late of Harlington, Middlesex, England).

SWARMS AND QUEEN-CELLS.

[7172.] All the guide books tell us that swarms come off as soon as the queen-cells are sealed, or the first fine day afterwards. Recently a neighbour asked me to look at his hive, which had swarmed two days previously, and tell him why the bees had swarmed and refused to touch the sections. The cause of the latter was quite clear: he had used old foundation which had been on the hive last year, and was well propolised. No worked-out comb or bait-section had been provided, the top bars were odd sizes, and let the heat escape, the section-rack was poorly protected, the entrance too small, and the drones over-numerous. Inside the hive were eight queen-cells in progress, and, although it was two days after swarming, none of them were sealed. Shall we have to revise our rules about swarms coming off when queen-cells are sealed?

Bees' Eggs by Post.—Last year you published some of my experiments with eggs by post. This year I have reared as many as seven queens from a 2 in. square piece of comb sent by post from Mr. E. H. Taylor, of Welwyn. In another instance I sent a frame of foundation to Mr. Fludder, of Alresford, Colchester, and it was returned with eggs from which queens were reared. In a third case the eggs came from Mr. Barnes, of Coniston, Lancashire.

Isle of Wight Disease.—A case of similar symptoms to this disease was referred to me recently from Retford, and I have just received a letter from the lady owner—whose name, &c., I send—in which she says:—"I have carried out your suggestions, with regard to the two stocks in which the bees were dying wholesale by crawling upon the ground in hundreds, to the best of my ability, and the fourth day after doing so I have not observed any bees affected. They seem to be quite recovered."

I should be glad if any readers of the B.B.J. who have any stocks similarly affected will write to me, with the view that the same method of treatment may be carried out. Possibly we may stumble upon some way of coping with it.—JOHN SILVER, Croydon Grove, Croydon.

BUYING ON THE "DEPOSIT SYSTEM."

A WORD OF WARNING.

[7173.] I shall be glad if you will allow me to endorse the editorial remarks on the subject of buying honey by sample and being supplied with an inferior article. Last year being a bad season, I had not enough honey to supply my customers, and not wishing to lose them I looked over the advertisements in the B.B.J., and sent for a sample, which duly came to hand, and was very nice indeed. But when the bulk arrived it was not a bit like the sample, and instead of keeping my customers I should have lost my trade by sending it out. I did not care to go to law about the matter, as I am far away from the seller's address, but if purchasers would only insist on buying on the "deposit system" they would be on the safe side. I send name and address for reference and sign myself—ONE WHO WAS HAD, Glamorgan, July 14.

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. Macdonald, Banff.

Foul Brood in Foundation.—I am pleased to reproduce the following assurance on the authority of the editor of *Gleanings*, as I feel it will go far to set at rest grave doubts entertained by many worthy bee-keepers:—"We desire to say most emphatically that foul brood is not carried in foundation. Once melting would be sufficient to kill all the disease germs, but after it goes to the foundation maker it goes through several separate and distinct processes of melting and refinings, covering a period of probably three or four hours all told, during which all disease germs of any sort would be cooked and killed." The fact of there being several boilings appears to me to be a sufficient safeguard. Two or three boilings of half an hour must be immensely more destructive than one boiling of double that time. So doubters may breathe freely.

A Cause of Irascibility.—"One of the most important causes," writes Mr. J. E. Crane, "is, when bees are at work, a high wind makes them very irritable. One day without much wind we may handle bees with the greatest pleasure, while the next, with a heavy wind, a good veil of the most approved pattern is very essential to our happiness." Recently another writer stated that, having bees placed too close alongside, where there was much intermixture and very frequent contact of home-coming foragers, irascibility was an inevitable result.

Moving Bees.—"There is but one good time to move bees, and that is at the period in spring when the hives are the lightest in bees and honey. This will be when the last of the old bees have died, and when their places are filled by young bees just reared, which are not yet very numerous." Moving, too, is simpler, and easier carried out than for the following three reasons: Young bees are good-tempered, the old cross bees have passed over to the great majority, and the youngsters are far more willing and ready to adopt the new location without any fuss or murmur.

Placing Extra Supers Above.—I have for a dozen years been an advocate of placing the second and subsequent crates *above* the first when adding to the surplus-chambers, and in America many prominent bee-keepers have adopted the system. Mr. Doolittle is a strenuous upholder of the plan, and here Mr. Coveyou, one of the most recently unearthed authorities, goes in for it strongly in *Gleanings* of May 15:—"I believe this to be the ideal way, for the first given supers are filled out more fully and capped more evenly than if they were lifted up and the empty ones placed beneath them next to the brood-chamber." Placing on crates rather in anticipation of the need of the bees is an excellent swarm-preventer, and to its use I attribute the fact that, working for comb-honey, swarming is a rarity with me. Judiciously managed bees are

not overtaxed, and few unfinished sections are left over in an average season. There is less disturbance, and surplus is better finished.

Specialisation.—The editor of the *Review* has made a "fluttering in the dovecots" by some of his recent writings in which he predicted that we of the common herd who engage in this most delightful pastime *con amore* will be extinguished at an early date, and our place taken by specialists. Mr. Hutchinson is a consistent advocate of "more bees," and inveighs periodically on the folly of those who adopt a second string to their bow, seemingly oblivious of the fact that he himself, in addition to being now an extensive bee-keeper, is also an editor of a bee-newspaper. He shows his wisdom in hanging on to both strings, and others may well follow his admirable example. Mr. York, in the *Journal*, touches one weak point in this fancy plan of Messrs. Hutchinson and Alexander of squashing all small bee-keepers and carrying on the industry as a great *Trust:* it does not lend itself like oil to such a manipulation. And then he wisely adds: "There is another phase of the affair more serious. We are told that the most important work of the bee is not the gathering of nectar but fertilising the flowers. If blossoms are to be fertilised only in good honey regions it would mean a loss of millions to the country." Therefore, while seedtime and harvest endure, bees will be kept here, there, and everywhere in small lots.

A "Sister" on Stings.—"It is true that for some bee-keepers a bee-sting is not only no worse than a mosquito bite, but not nearly so bad. Old stagers feel no after-effects from the sting, the pain being over in a minute, whereas the pain from the mosquito bite gets worse and continues for some time." Bravo, Miss Wilson!

WEATHER REPORT.

WESTBOURNE, SUSSEX,
June, 1908.

Rainfall, ·70 in.	Minimum on grass 31° on 7th.
Heaviest fall, ·40 in. on 16th.	Frosty nights, 0.
Rain fell on 3 days.	Mean maximum, 67·7.
Below average, 1·38in.	Mean minimum, 50.
Sunshine, 298·4 hours.	Mean temperature, 58·8.
Brightest day, 29th, 15·3 hours.	Above average, 1·8.
Sunless days, 1.	Maximum barometer, 30·349 on 25th.
Above average, 67·4 hours.	Minimum barometer, 29·693 on 16th.
Maximum temperature, 82° on 4th.	
Minimum temperature, 37° on 7th.	L. B. BIRKETT.

Bee Shows to Come.

July 29, at Henbury, near Bristol.—Annual Show of Honey and Wax of the Henbury District B.K.A., in connection with the Horticultural Society's Exhibition. **Entries closed.**

July 29, at Upwell, Wisbech.—Horticultural Society's Show. All exhibits will receive careful attention. Open classes for Honey, including gift class for 1-lb. Jar. Schedules from Hon. Secretary, J. Hy. Inman, Upwell, Wisbech. **Entries invited.**

July 30, 31, and August 1 and 3, at Manchester.—Annual Show of the Royal Lancashire Agricultural Society. Open classes for Honey. Trophy, Sections Extracted Honey, Beeswax, Honey Confectionery, Bee-Flowers, Instructive Exhibits in Bee-Culture, &c. **Entries closed.**

August 3 (Bank Holiday), at Cambridge.—Show of Bees and Honey. Championship Motor and Athletic Sports. Dogs, Cats, Mice, Flowers, Fruit, Vegetables, Poultry, Birds, &c. Fireworks by Pain; the largest and most attractive show outside London. Excursions from all parts. Prizes paid on day of Show. Schedules, Warren, 81, Richmond Road, Cambridge.

August 3 (Bank Holiday), at Clewer, Windsor.—Show of Honey and Appliances by the Windsor Branch Berks. B.K.A., in conjunction with the Clewer Horticultural Society. Schedules from Hon. Sec., Mrs. W. S. Darby, 1, Consort Villas, Clewer, Berks. **Entries close July 29.**

August 3 (Bank Holiday), at Melton Constable.—North Norfolk B.K.A. Annual Show of Honey. Schedules from C. J. Cooke, Edgefield, Melton Constable. **Entries close July 25.**

August 5 to 7, at Halifax.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. **Entries closed.**

August 6, at Madresfield, Malvern.—Annual Show of the Worcestershire B.K.A. Open class for 12 1-lb. jars Extracted Honey. Entry forms and schedules from Geo. Richings, 2, Shrubbery-terrace, Worcester.

August 12, at Wye (Kent Honey Show).—Five Open Classes: Trophy, cup value £3 3s. (entry 1s.), 1 lb. Section, 1 lb. Light Run, 1 lb. Dark Run, 20s., 10s., 5s. in each case (entry free); Beginner's Outfit, to retail 30s. (entry free). Fifteen Classes open to Kent: Two Challenge Cups, value £6 6s., and money prizes for 6 1-lb. Sections and 6 1-lb. Jars Extracted Honey. Money prizes for 6 Jars Light, 6 Jars Medium, 6 Jars Dark Extracted Honey, 2 Shallow or Standard Frames, 3 Sections and 3 Jars, 1 Jar Granulated, Beeswax, Mead, Candy, Cake Sweetened with Honey, Display of Cut Flowers, &c.; two Special Classes for Cottagers. Schedules of J. Tippen, Secretary, Wye, Kent. **Entries close August 5.**

August 12 and 13, in The Park, Taunton.—Somerset B.K.A. Annual Show, in conjunction with that of the Taunton Deane Horticultural Society. Increased Prizes. Sixteen classes, including eight open and two free. Schedules from L. E. Snelgrove, Hon. Sec., Cromla, Locking Road, Weston-super-Mare. **Entries close August 7.**

August 13, at Llangefni.—The County of Anglesey B.K.A. Honey Show. Prizes in Open Classes. Single Open Class for the best 6 1-lb. Jars of 1908 Honey, 10s. 6d.; entrance fee 1s. 6d. Two Classes, open to North Wales only, for the best and most attractive display of Honey and Honey Products, first prize £1 1s., second 10s. 6d.; entrance fee 2s. No second prize given unless three or more entries are made. Schedules from Rev. O. Kyffin Williams, Llangwyllog, North Wales. **Entries close July 25.**

August 14, in Public School, Portwilliam, Wigtownshire.—Honey Show in connection with the Horticultural Society. Classes for Sections and Extracted Honey, open to amateurs and cottagers. Challenge Class (open to all) for 3 1-lb. Jars Extracted Honey, prizes 20s., 12s., 8s., and 4s. Schedules from Secretary, Horticultural Society, Portwilliam, N.B.

August 19, at Lancaster.—Honey Show and Bee Demonstration, &c., in connection with the Lancaster Agricultural Society's Show. Open classes. Special prize, including silver challenge cup, value £6 10s., seven silver and bronze medals, &c. Schedules from Thos. Armistead and Son, auctioneers, Lancaster. **Entries close August 5.**

August 19 and 20, at Shrewsbury.—Annual Show of the Shropshire Bee-keepers' Association will be held in the Quarry, Shrewsbury, in connection with the Shropshire Horticultural Society's Great Floral Fête. Eight Open Classes for Honey. Free Entry for Single Bottle and Single Section. Schedules from S. Cartwright, Hon. Secretary, Shawbury, Shrewsbury. **Entries close August 7.**

August 20, at Abingdon Park, Northampton.—Honey Show of the Northants B.K.A. Special prizes for open classes, including one for single 1-lb. jar honey. (**Entry free.**) Prizes 20s., 10s., 7s. 6d., and 2s. 6d. Schedules from R. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 16.**

August 22, at Elworth, Sandbach.—In connection with the Elworth Athletic Club and Horticultural Society's Show. Class for Honey, open to the County of Chester. First prize 15s., second 7s. 6d., third 5s., for twelve 1-lb. Jars Extracted Honey; also Bronze Medal given by the Cheshire Bee-keepers' Association. Entry fee 1s. Schedules from A. E. Wright, Hon. Sec., Elworth, Sandbach. **Entries close August 15.**

August 26, at Chester (Cheshire Agricultural Society's Show). — Bee and Honey Department, under management of the C.B.K.A. Open classes for Hives, Sections, and Extracted Honey. Increased prizes. Members' classes. District class. Special prizes offered by Chester Tradesmen's Association. Schedules from T. A. Beckett, St. Werburgh's-chambers, Chester. **Entries close August 5.**

August 26 and 27, at Solihull, Warwickshire.—Show of Honey, Hives, and Appliances, in connection with the Warwickshire Agricultural Society. Schedules from J. N. Bower, Hon. Sec., Knowle, Warwickshire.

September 3, 4, and 5, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-six Classes (nine open to all). Increased Prizes and Medals. Schedules from F. B. White, Secretary, Marden House, Redhill, Surrey. **Entries close August 22.**

September 5 to 12, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners' Bakers', and Allied Trades' Sixteenth Annual Exhibition and Market. (See large advertisement on page iv.) **Open to all British Bee-keepers.** Entry fee in each class 1s. Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 5, at Bramhall. — In connection with Bramhall Horticultural Show. Honey Section under management of C.B.K.A. Liberal prize list for Honey, Extracted or Sections, and Wax. Silver and bronze medals for Local Class. Schedules of Mr. J. Sibson, Kitts, Moss Lane, Bramhall, Stockport. **Entries close August 31.**

September 9, at Wilmslow, Cheshire.—In connection with Adlington and East Cheshire Agricultural Society. Honey Section under the management of the C.B.K.A. Bronze medal for District Class. Liberal Prizes. Open and District Classes. Schedules of Mr. J. Sibson, Bramhall, Stockport. **Entries close August 31.**

September 12, at Dumfries.—Annual Show of South of Scotland B.K.A. Five Open Classes: 3 Bottles, 20s., 12s., and 6s.; 3 Sections, 15s., 10s., and 5s. (entry 2s.); 1 Bottle, also 1 Section, 5s., 3s., and 2s. (entry free, and exhibits retained unless otherwise agreed upon); Beeswax, 5s., 3s., and 2s. (entry 6d.). Thirteen classes for members. Schedules from Q. Aird, Hardgate School House, Dalbeattie, N.B. **Entries close September 5.**

September 14, at Conway, N. Wales.—Annual Honey Show, in connection with the Conway Honey Fair. Open and Local Classes. Schedules from J. Hughes, Town Hall, Conway. **Entries close September 7.**

September 19 to 26, at the Agricultural Hall, London.—Honey Show in connection with the Sixteenth Annual Exhibition and Market of the Grocery and Kindred Trades. (See large advertisement on page iv.) Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.** Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 23, at Altrincham.—Honey Show in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. Classes for Trophy of Honey, for Best Hive, Observatory Hive with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester, for Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low entrance fees. Schedules from Mr. J. Herbert Hall, 2, Dunham Road, Altrincham. **Entries close September 5.**

Queries and Replies.

[3750.] *Black Brood and Sour Brood.*—Several times in the B.B.J. I have seen "black brood" and "sour brood" mentioned, but I cannot find anything concerning it in the eighteenth edition of your "Guide Book." Would you be so good as to inform me if there is a revised edition of the "Guide Book" since the eighteenth, and also if you would tell me what the two diseases are? Thanking you.—C. B. COLLIER, Plymouth, July 17.

REPLY.—The nineteenth edition of "Guide Book," which appeared in the autumn of last year, was almost entirely re-written, has new illustrations, and was enlarged to 225 pages. Nine extra pages have been added to the chapter on diseases, in which will be found all that is known up to the present time respecting them. Black brood and sour brood are fully described on pages 182-184 of this edition

[3751.] *Spacing Frames.*—I bought a swarm of bees over a week ago, and put them in a small hive containing nine frames. The hive is so small that I could only space the frames at 1¼ in. from centre to centre, so I want you to let me know through the B.B.J. if I should take out one of the frames and space them at 1½ in. from centre to centre. I gave them a starter of about 2 in. or more of comb-foundation, but I put a full sheet in the middle, so they have done a lot of work already. I shall feel obliged if you can reply to this under the heading of—ARGYLLSHIRE, July 16.

REPLY.—You should space your frames 1½ in. from centre to centre by removing one of the frames, and we should advise you to have a larger hive that will hold at least ten standard frames. It is a pity that you did not give whole sheets of foundation, as there would have been less chance of drone-comb being built.

Notices to Correspondents.

*** *Correction.*—A slight error occurred in the final report on the exhibits at the "Royal Show," Newcastle, Mr. W. P. Meadows being mentioned on page 285 last week as having taken third prize in the class for cottagers' hives. Messrs. Abbott Bros. received third in this class, as stated in the full prize list on page 275 of our issue of July 9, Mr. Meadows' award being reserve and v.h.c.

AMATEUR (Worcester). — *The "Wells" Hive and System.*—The advantages or otherwise of the "Wells" hive, and the system of working it, can be most fully realised by obtaining Mr. Wells's pamphlet on the subject, which may be had from the author, Mr. Geo. Wells, Eccles, Kent, price 6d.

H. C. (Lancaster Gate).—*Planting Lime Trees for Bee-forage.*—1. Of the fifteen trees for which you

have room, we should plant eleven or twelve of the ordinary lime (*Tilia Europæa*), and the remainder the late-flowering variety (*Tilia petiolaris*). This will extend the honey yield from your limes for about a fortnight, and be appreciably helpful in adding to your honey-crop. The last-named is a fast grower. 2. We should rely on the limes.

S. B. (Royston).—*Queen Bee Cast Out Dead.*—There is nothing in the bee sent to indicate cause of death, or why the bees have cast the mother-bee out. It has not been "balled," and has the appearance of a fertile queen, though rather small in size. We advise no disturbance of the stock till the sections now being filled are completed, or the honey season is nearing its end, and you will then, no doubt, find a young queen heading the stock.

HINDERED (Cambs). — *Honey-jars for the Show-bench.*—We entirely agree with your view with regard to the bad faith of advertisers who take no heed of their obligations to customers. Your sample has reached us, and we intend to make personal enquiry into the matter at once, and will inform you of the result without delay.

A. W. (Derbyshire).—*Dead Bees Cast Out of Skep.*—1. The dead bees sent do not help us in arriving at any conclusion on the cause of them being cast out. The dark, shiny bees have the appearance of robber-bees, and the sample of bees from the stock look like the common brown or native bee. We see hardly any trace of yellow or Italian bees about them. Our advice is to remove the "straw super, full and ready for taking off,' at once, and putting a small one in its place. 2. Bees that die in the hive from old age are usually carried out of the hive by their fellow-workers of the colony.

MRS. K. FRY (Rhynie, Aberdeen).—*Bees Transferring Themselves to Frame-hives.*—1. We are glad to learn the plan advised has succeeded. In twenty-one days from the time the brood-nest was transferred below, the old box may be removed bodily, as it stands, and turned bottom upwards some little distance away till the bees have taken wing and flown back to the frame-hive. If they seem disinclined to take wing, give a puff of smoke, then shake the box to expedite their exit. 2. The large bee sent in paper was a queen, and no doubt some accidental injury has followed the transferring, to account for what followed. The dead bees sent, though shrunken, are not young ones. 3. It will be quite impossible for the third lot of bees to fill the lower hive with combs and yield any surplus this year. If they can fill the frame-hive with combs, and provide stores for wintering on, you will have to be content without any "section filling," we fear.

W. TUCKER.—*Samples of Cane Sugar.*—The sample of Barbados sugar is not at all suited for bee-food, as it contains too much treacle, not being sufficiently refined. The other sample labelled Demerara might be used for spring food, if guaranteed by your grocer as pure cane sugar, but for autumn food white refined cane crystals or lump preserving cane sugar should be used.

ANONYMOUS (Chipping Sodbury).—*Dead Bees Cast Out of Hive.*—It is impossible to say why the bees have been cast out without more particulars. It may be that strange bees entered the hive when it was supered. Young bees cast out indicate scarcity of stores. If the bees, as you say, are now storing in supers, they have probably got over the trouble, but if you notice any more cast out, the hive should be examined to ascertain the cause.

HEATHER (Amesbury).—The secretary of the Wiltshire Association would be the best person to apply to for information as to the best and nearest heather to Salisbury. Heather honey is obtained in the New Forest. Address the Rev. W. E. Burkitt, Buttermere Rectory, Hungerford.

E. W. BARTON (Salisbury).—*Best Hive for Shallow Frames and Sections.*—1. The best hive for this purpose for either English bees or "British Golden" of Sladen's breed is one containing ten or eleven standard frames. It does not much matter what hive is used, provided it is simple in construction and the frames are of standard size and fit accurately. 2. The hive you mention is not an improvement on the W.B.C., although it answers its purpose very well.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

OWEN BROWNING, Ashley, King Somborne, begs to say that he cannot accept any more orders for honey at present. h 70

VARIABLE SEASONS.—The "S. J. B." tested and guaranteed Queens, producing the best of workers. Unqualified success. Safe delivery guaranteed. 4s. 6d. each.—BALDWIN, Apiary, Bromley, Kent.

EXCHANGE KODAK CAMERA, cost 2 guineas, for Good Stock, in Skep, immediately.—GROOMBRIDGE, Ruxley, Foots Cray, Kent. h 79

16 "W.B.C." BODY-BOXES and SHALLOW-FRAME RACKS, 2s. 6d. pair; also good secondhand "W.B.C." Hives," with Frames and Racks, 8s., nearly new; also a large quantity Clover Sections, 9s. dozen.—Harrison Farm, Middleton, Pickering, Yorks. h 80

HEALTHY DRIVEN BEES, commencing August 1, 4s. per lot, with Queen Boxes, to be returned. Orders rotation. Cash with order.—T. PULLEN, Ramsbury, Hungerford. h 84

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PURE ITALIAN QUEENS, Tested 6s., Imported 5s.; Virgins, Root's Red Clover Strain, 2s. 3d.; Pure Black, 3s.; Virgins, 1s. 6d.; 4-Frame Italian Nucleus, with Queen, 16s.; Black, 12s. 6d.; Hives with Bees by arrangement.—G. THOMAS, Pwllcrochan Rectory, Pembroke. h 57

DRIVEN BEES, from 18 Skeps, Owner moving and must drive before August 16, 1s. 3d. per lb., or would take part in exchange for Bee Appliances.—W. HAMBROOK, Church Farm, Newington, near Sittingbourne. h 89

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WANTED, Clean, Empty, Well Drawn-out Sections for heather work.—State price and number to H. SAMWAYS, Maesybont, Llandebie, Carmarthenshire. h 82

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Special Prepaid Advertisements.—*Continued.*

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WANTED, HEATHER HONEY PRESS, secondhand. State particulars and price.—KENNEDY, Woodside, Echt, Aberdeenshire. h 87

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WANTED, DRIVEN BEES, 6 lb. to 8 lb., first week August.—McCURRACH, Dey Bridge, Buckie. h 77

FOR SALE, First-class Apiary of 48 Stocks, with Appliances, including 1 large 4-Frame Extractor, 1 smaller ditto, 1 2-Frame ditto, Ripeners, Tanks, large quantity Section-Racks, Foundation, Sections, Frames, &c.; also 2 splendid Mahogany and Plate-glass Stands, for Trophies, and a number of Spare Hives (nearly new). The above Hives are of quite a superior quality, both in material and workmanship. This Apiary took First Prize for Best Apiary in Essex 3 years in succession. Above will be sold in one lot only, and forms a most unexceptionable opportunity for anyone desirous of establishing a First-class, Up-to-date Apiary. N.B.—Manipulative examination of Stocks permitted to a bonâ-fide intending purchaser only. Price and further particulars on application to S. P. SOAL, Reliable Bee Farm, Rochford, Essex. h 88

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STOCKS OF 8 STANDARD FRAMES, Comb and Brood, 22s. 6d.; 10 ditto, 25s. 6d.; 3-Frame Nucleus, 12s. 6d.; 1908 Fertile Queen; or exchange good Extracted Honey. Hives supplied if required. —W. WOODS, Normandy, near Guildford. h 53

31ST YEAR.—Queens, imported, Italians, Golden, Carniolans, 6s. 6d.; British or Hybrid, 3s. 6d.; 3-Frame Nuclei, any variety, Queens, Swarms.—E. WOODHAM, Clavering, Newport, Essex. h 29

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CLOVER HONEY, good quality, 1 lb. Screw-cap Jars, 77s. gross, 21s. ½ gross; ½ lb. ditto, 45s. gross, 13s. ½ gross; Honey, in bulk, 48s. cwt.; samples, carriage paid, 8d. — Further prices and particulars from TURNER BROS., Sandpit Poultry Farm, Croydon. e 86

BEESWAX, guaranteed pure, 1 oz. tablets, 1s. 9d. lb., £8 17s. cwt.; in bulk, 1s. 6d. lb., £7 15s. cwt.; samples, 3d.—TURNER BROS., Sandpit Poultry Farm, Croydon. e 87

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PURE ENGLISH QUEENS	4/6
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Write for full Price List.

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36th Annual Show.

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Sole Agent for CHAS. DADANT & SONS, of America, who are the largest Makers of Comb Foundation in the World.

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THE

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

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No. 1362 Vol. XXXVI. N.S. 970] JULY 30, 1908. [*Published every Thursday, Price* 1d.

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Having just made a big contract for practically the whole output of a large firm of Bottle Manufacturers, I am able to offer 1lb. screw-top Jars with Caps and Cork Wads in—

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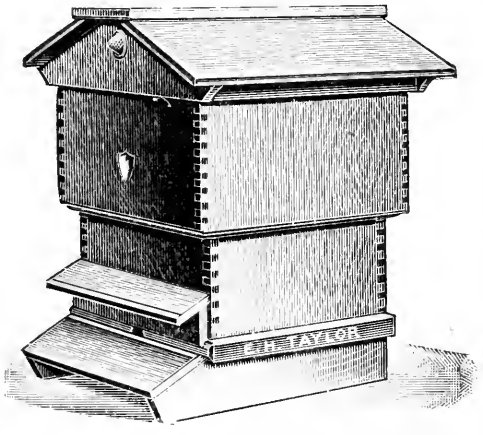

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Glazed Section-cases, 1s. 6d. doz.; Extractors, Ripeners, &c. Having bought quantity finest 1-lb. Screw-cap Honey Bottles, show quality, sloping shoulders, I offer at following low prices: 15s. 6d. gross, 3 gross at 14s. gross; usual price 18s. 6d.

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Try also the "No Plinth" Hive, a grand Hive, with Brood and Shallow Frames, &c., price **15/9.**

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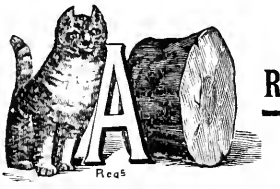
NEW  READY

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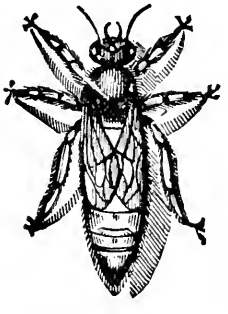

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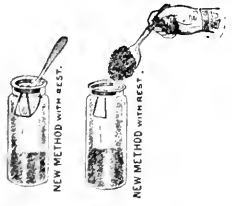

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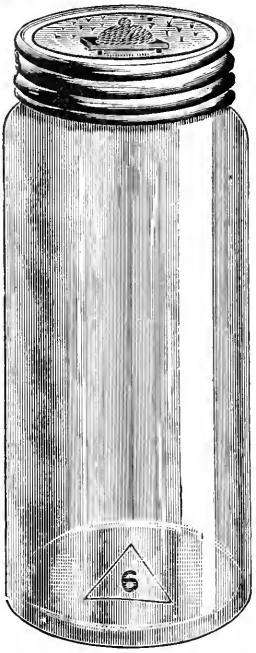

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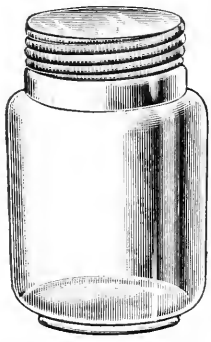

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Cork Wads for any of above, per gross **1/6**

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In order to induce Bee-keepers to compete for the liberal prizes offered, the entry fee has been fixed at One Shilling in each class.

Editorial, Notices, &c.

CONGRESS OF BEE-KEEPERS.

(*Continued from page* 294.)

THE DEVELOPMENT OF BEE-KEEPING AS AN INDUSTRY.

The next subject on the programme was introduced by Mr. T. W. Cowan, F.L.S., who said:—When I see so many before me, we may inquire why they meet here at so great expense of time and money, and I think we may conclude that amongst the benefits to be derived by our meetings is the social intercourse between bee-keepers. Hearty greetings and hand-shaking are expressions of sympathy and friendly feeling which encourage each to extra exertion and sustain us in all difficulties. Comparison of the different results obtained prompts to a friendly rivalry, and comparison of ideas frequently awakens trains of thought which result in benefit to bee-keeping generally. We meet those of whom we have read in the journals, and by studying their characters we can judge of their ability, which will aid us in future in reading their communications to separate the good from the bad. You will have the opportunity at this Congress of hearing several papers read, and you are invited to join in the discussion of the various questions raised.

Like all other branches of science which have developed the resources of the world, bee-keeping had its origin in ages long past. They are all accumulations and scientific combinations of ideas and inventions scattered by past generations in their march from ignorance, superstition, and bigotry to intelligence, knowledge, and science.

I do not intend to give a history of the bee and bee-keeping from the earliest times, but I would like to mention what I consider has been instrumental in a great degree in developing bee-keeping to its present extent, not only in this country, but throughout the world, and rendering it no longer a matter of chance, but as certain and more remunerative with small outlay than any other rural occupation.

Up to the beginning of the last century much ignorance prevailed with regard to the honey-bee, and to Huber belongs the credit of throwing light on the subject and of making and using the frame-hive, which has since then been developed to its present practical form. Many names, such as those of Langstroth, Munn, Dzierzon, Berlepsch, Woodbury, and De Beauvois, are connected with the introduction of the movable-comb hive, the principal requisite of which to the bee-keeper is simplicity. There have been many inventors, but few who made so careful a study of the habits of the bees and constructed their hives with a special adaptation to their nature as Langstroth. Although invented more than fifty years ago, it is still a pattern of simplicity and perfection, and the principle of the hive is used more extensively than any other frame-hive. The frames are a happy medium between the deep and the shallow. One is better for rapid breeding, the other for surplus. The bees in this hive get the right depth to secure the best results from both. The hive opening from the top facilitates manipulation, and hives can also be worked on the top of each other on the tiering plan when working for extracted honey. Hives on this principle are now used in most countries, and there are signs that even in Germany and Italy the tall and narrow frames with hives opening from the back are in some instances being replaced by such as we use. There is, however, a great difficulty in these countries, because so many bees are kept in bee houses or pavilions, which sometimes hold a large number of colonies, and occupy a very small space in the garden. However, there are Pastor Sträuli and others who are advocating our system and adapting the hives for use in such houses.

The British Bee-keepers' Association gave a great impulse to bee-keeping by adopting a standard frame, which experience has shown to be a most suitable size for working, both for extracted honey and sections. It has also done much by encouraging simplicity in the construction of hives, so that we now rarely see the ingenious but complicated hives of former days.

Another factor in the development of bee-keeping has been the honey-extractor, which has enabled the bee-keeper to produce not only a larger quantity of honey, but that of superior quality, perfectly pure and free from an admixture of pollen or brood, which entered so largely into the composition of honey in former days. Not less important was the introduction of comb-foundation, a German invention, but brought to its present state of perfection in America. By the use of this much of the work of the bees is saved, the yield of honey increased, and combs of the greatest regularity are obtained, enabling them to be used in the extractor with much facility.

Besides these inventions, there are also scientific discoveries which have played an important part in the progress of the science. Amongst those connected with them stand prominent, besides Huber, such names as Dzierzon, Siebold, Leuckart, De Planta, Schönfeld, Cohn, and

others, who have not only contributed to the literature on the subject, but by their observations and discoveries have settled many doubtful points in connection with the natural history of the honeybee.

It is not only the improvements and discoveries I have mentioned that have developed bee-keeping during the last fifty years, but the progress is mainly due to co-operation or associated action—in our own country since the establishment of the British Bee-keepers' Association in 1874, and the county branches affiliated to it subsequent to that date. What applies to us can also be applied to other countries—only that some of them have had associations much longer than we have.

There is much misconception as to the object of associations, and we are frequently asked what benefits are to be derived from joining them. The answer must be, "Much in every way." Co-operation is a special phase of modern culture and enterprise. It is by no means of recent growth. It began with the dawn of human existence, and found its earliest form of expression in human society. The family, the tribe, the corporation, and the state are various forms under which it has shown, and still manifests, its existence. Isolation is incompatible with human instincts and interests. In the early days of mankind the necessaries of existence brought about co-operation for mutual defence and for common subsistence. The spontaneous impulse of a common sympathy brought about co-operation and actuated men to united effort. Out of this common effort grew common rights, which were the roots from which legislation sprang, and upon which rested the foundation of government. But the beneficent results of co-operation were not confined to the family, city, or state; they also manifested themselves in culture and ceremonial, which sometimes united people, and sometimes placed them in antagonism. Later, when commerce began to be a great factor in human progress, commercial unions were formed, and tradesmen allied themselves for mutual protection. These guilds, of which we have an example in the Worshipful Company of Wax Chandlers, played no unimportant part in the transition from the civilisation of antiquity to that of the modern era.

It is not, however, to ancient or mediæval times that we must look for the fullest development of co-operation. The spread of intelligence quickened all the dormant energies of mankind, and an era of mental and material progress was entered upon unknown to the world before. Associations were formed for the promotion of scientific discovery. The value of united effort was felt and recognised. It is hardly possible to estimate the good done by such societies as the Royal Society, the Institute of France, and others. The impulse given to the cultivation of science, art, and literature by these societies was immense. The works of the greatest geniuses of the day were brought together, their faults criticised, and their merits acknowledged; this led to improvement and invention, and encouraged discovery and perfected art. Encouraged by these older societies, others were formed for the advancement of special branches; thus we have the Linnean, Geological, Geographical, Microscopical, and others, each co-operating for the advancement of some particular science, and through their aid and encouragement the boundaries of knowledge have been pushed forward and heights reached of which our forefathers never dreamed. Another form of co-operation has manifested itself in production, but what I want to point out to you as bearing more especially upon the object for which we are met here to-day is the co-operation of bee-keepers, whose object is to facilitate production. Such associations exist all over the country. I need hardly say that I allude to agricultural, horticultural, bee-keepers', and similar associations. The good these have done is manifest. I have only to remind you that before the British Bee-keepers' Association was established bee-keeping was only carried on by a few, and mostly on the old plan, which resulted in the destruction of the bees. Now it is estimated that there are 63,000 bee-keepers who have adopted improved methods, so that no one can say that co-operation has not entirely revolutionised bee-keeping in this country during that time. In these associations the end sought is to determine the principles which render successful production possible, and what individual effort has failed to do, the principle of co-operation is rapidly accomplishing. Not only is bee-keeping advanced from a commercial point of view by co-operation, but the science also derives much benefit. When hundreds of intelligent workers are engaged in the same pursuit, their observations, tests, and experiments can be brought together, put in every light, viewed from every standpoint, and inferences which the seemingly established facts warrant, if not conclusive, are provisionally accepted till further light is thrown upon them. Then the workers, leaving the well-established to take care of itself, apply themselves to collect further facts in order to refute or establish that which was provisionally accepted. The certainty that by co-operative effort error will, however plausible, be exposed and eliminated tends to make men less vehement in the defence of views still open to ques-

tion, and more tolerant of the opinions of others. The results of co-operative effort have already been conspicuous in some branches of bee-keeping, both here and abroad; but we must have co-operation and associated action in all branches before we shall be able to see apiculture on an equal footing with other branches of industry. Unity of action is necessary in all the different parts of apiculture, not only in placing our products on the markets, but also to ascertain the yearly production by reliable statistics and to stamp out bee-diseases. Statistics are not yet collected all over Great Britain as they are in other countries, but we hope in time to get our Government to undertake the task.

Although bee-keeping has made rapid advances, has been reduced to a science, and is capable of becoming a great national industry, I believe it is still in its infancy, and much more remains to be done. Through the efforts of the British Bee-keepers' Association the science is now taught in agricultural and horticultural colleges by men who have undergone an examination and have obtained its certificates. There are now a number of such experts and lecturers not only in England, but also in the Colonies. County Councils have also been induced to take up the subject, and lectures under their auspices are given throughout the length and breadth of the country. The Association has also an experimental apiary in charge of its expert, who gives lectures and public demonstrations with bees at agricultural and horticultural shows. But there is much more to be done, and the Association's work is only limited by its income. Much of what depends here on private enterprise is done by the Governments of other countries, most of them making substantial grants to the associations for teaching bee-keeping by means of classes and practical demonstrations. We hope in course of time that our Government will also recognise the value of bee-keeping as a national industry, and take it under its fostering care.

Other countries have also assisted in developing the bee-keeping industry, and many noted men have done their share for the common good. In this country, besides Woodbury, we have had Abbott, Cheshire, Hooker, and Peel; in France there have been Hamet and Lavens of opposite schools, but doing their best for the common good. Then in Switzerland we have had Bertrand, Gubler, Kramer, and De Planta. In Russia bee-keeping is carried on extensively, because the peasants use honey in place of sugar, and the Church makes a large demand for beeswax. In Ekaterinoslav it is stated that there are four hives kept to every inhabitant. In that country we had such men as Boutleroff and Zoubareff, who were pioneers of modern methods. Belgium also in the last twenty years has made rapid strides under such men as Halleux, Wathelet, and others. In America bee-keeping is a very large and important industry, some bee-keepers having 1,000 and more colonies. The Americans have exceeded us in the returns they obtain per hive owing to their favourable and extensive pasturage, and I do not expect that we in Europe, where the population is so dense, can ever reach the figures reported by them; but I believe that we have not yet reached the limit of our producing capacity, and by simplifying methods and appliances much can yet be done to increase the honey-harvests.

There are many factors which have had an influence on the development of bee-keeping, but it would take too much time to allude to them all. I will therefore simply speak of the advance made in the improvement of bees. This is a question of most vital importance to every bee-keeper. The animal as well as the vegetable kingdom is governed by a universal law, by which improvement or development can be more or less brought about. The higher the organisation the more easily does it come under its influence. We have illustrations of it in our breeds of horses and cattle, and even vegetables and fruits have been developed by careful cultivation and selection to their present excellence. Within the recollection of most of us the number of varieties of apples has doubled, and these all originated from the crab-apple, which is anything but palatable.

We have ample reason for believing, and in our own experience ample evidence, that this law of improvement can be made to operate in the development of the many good qualities of bees. Every bee-keeper knows that there is a great difference in colonies of bees, and some under the same conditions will be far superior to others. Bee-keeping has no doubt been benefited by the introduction of fresh blood among our native bees, but considerable harm has followed from the cheap queens placed on the market.

Great strides have been made in queen-rearing, and we are indebted to the Americans, who have led the way in systematic breeding of queen-bees. The methods of H. Alley were improved by Doolittle and later by E. L. Pratt, and have been modified and adapted to European conditions by F. W. L. Sladen in England and Herr Kramer in Switzerland. Here much has already been done, and with good stock to breed from, and by constant selection brought about with intelligence, science, and skill, I have great hopes that in a few years we may have a race far superior to anything we have now.

In Switzerland already remarkable results have been obtained in breeding the native race by selection. Herr Kramer has been the leader of the movement, and has associated with him a number of bee-keepers who have been breeding queens with certain definite objects in view. They meet frequently for conference and exchange of ideas and comparison of notes, and as a result have so improved the native race of bees that not only has it a better and more vigorous constitution, but the swarming instinct has been almost entirely eliminated, and the consequent production of honey very much increased.

Far too much has been sacrificed hitherto to appearance, other important qualities being overlooked; it is therefore important that bee-keepers and queen-breeders in the future should pay more attention to selection than they have done in the past.

The development of the industry has been, as I have shown, very great, and this has taken place notwithstanding the hindrances to bee-keeping. I shall only now allude to diseases which are liable to break out in the best-managed apiaries. Some of these are very contagious, and with the present commerce in queens and bees it is not surprising that diseases should break out in districts where they were not known to exist. Foul brood is one of the worst diseases known, but with the scientific researches made by Cohn, Cheshire, and Cheyne, and later by Drs. Burri, Maassen, and White, we are beginning to understand the malady better, and are able to apply remedies to cure it successfully. The principal difficulty is in inducing those ignorant of the nature of the disease to take drastic measures for its eradication, their hives being centres of contagion.

There are other diseases which are more or less fatal, and these are now being investigated, and I hope before long we shall be able to control them just as we are able now to control foul brood.

I have only touched on a very few of the subjects, but have given a brief outline of the development of bee-keeping as an industry. I believe that when bee-keeping shall have extended, as it undoubtedly will, additional means of livelihood will be opened up in this country to the industrious from this source the value of which must be very great. In conclusion, I hope the proceedings of this Congress will be entirely harmonious, and productive of good to those present and to bee-keepers generally.

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Referring to the discussion which followed M. Sevalle's paper on "The Cure of Foul Brood," Mr. W. F. Reid's remarks were, to our regret, accidentally omitted. He said: It had been proved by the experience of the Surrey Bee-keepers' Association that foul brood could be kept under control, and was not a serious danger to bee-keeping when proper precautions were taken. When that association was started the number of diseased stocks averaged 16 per cent.; but these had now been reduced to about 2 per cent., and were still diminishing.

(*Report continued in our next.*)

REVIEWS.

Es gibt keine Parthenogenesis. By Dr. Martin Kuckuck (Leipzig: C. F. W. Fest. Price 3.20 marks (3s.).—We have received from the author the above work on a subject that has from time to time caused a good deal of discussion.

Parthenogenesis (or virginal reproduction) has excited great interest amongst naturalists from the time it was first observed to the present, and it has been carefully studied in connection with bees since Dzierzon first advanced the theory in 1845, and Siebold published his microscopical investigations in 1856 ("Wahre Parthenogenesis bei Schmetterlingen und Bienen"), and more recently those by Dr. Petrunkewitsch ("Die Richtungskörper und ihr Schicksal im befruchteten und unbefruchteten Bienenei"). In recent years M. Dickel made an attack upon this theory, stating that all eggs laid by the queen were fecundated, and that the bees themselves determined the sex by means of a secretion from special glands. In this book Dr. Kuckuck, who differs from Dickel, argues, as the title of the book implies, that "there is no parthenogenesis."

Without entering into full scientific details of the process of reproduction, we would briefly mention that all animals, as well as plants, are built up of particles of living matter called cells, each containing living protoplasm, surrounded by a casement of dead matter which it has produced around itself. Each cell of plasm has a nucleus of peculiarly active substance, grows, and after a time divides into two. This is called the egg-cell, or plasm-cell, but before cleavage can take place it must undergo fertilisation—that is, its substance must fuse with that of a sperm-cell or spermatozoon, which forces its way into it, and mixes with the substance of the egg-cell. After this the egg-cell consists of the substance of the two cells, completely fused, and which now form a single cell with a single nucleus. This process accomplished, the egg-cell can divide, grow, and multiply new cells. This is the usual way in which reproduction is attained. On the other hand, in parthenogenesis there is no fusion of the

two cells, the egg-cell growing and dividing without the addition of a sperm-cell—that is, without being fertilised.

Dr. Kuckuck, in his book, contends that the ripe egg-cell (plasm) is electro-negative, whereas the sperm-cell (spermatozoon) contains the electro-positive element. Division of the cell can, therefore, only take place when the sperm-cell has fused with the egg-cell, seeing that the electro-positive element of the sperm-cell expels that of the egg-cell, which the latter inherits from its father. This appears certain, because the cell grows and multiplies, and the author maintains that they must be fecundated by the fusion of the egg and sperm cells, otherwise they would perish. He also contends that all eggs in a hive, whether from a normally-mated queen, a virgin, or workers, are fertilised with a spermatozoon, and that no unfertilised egg is capable of development. The eggs of a queen-bee only contain the characteristics she herself possesses, while the spermatozoon contains those of the male; consequently he considers that the queen-bee cannot transmit to the brood characteristics of the male sex which she does not herself possess, or the drone transmit those of the female sex which are lacking in himself. Dr. Kuckuck declares his belief that all eggs capable of development, including those of fertile workers, are fertilised by a spermatozoon, and that all females laying eggs, whether queens or workers, that produce offspring have been mated by a drone, either outside of or in the hive. He also states that not only eggs of fertile workers, but also those of queens mated in the hive, produce drones only. Up to the present such queens were supposed not to be fecundated at all. This will astonish bee-keepers, and it does not agree with our own experience, for only this spring we had a case of a queen hatched when there were no drones—and consequently not mated—laying eggs from which drones were hatched in worker-cells. On dissection it was found that the spermatheca of this queen contained no spermatozoa, and only a clear fluid, clearly showing that fertilisation had not taken place.

We have in the above endeavoured to give a brief idea of the substance of Dr. Kuckuck's book in plain language, without using technical terms, which only puzzle the general reader, and would strongly recommend those who can read German to procure the work for themselves. It contains 108 pages and twelve excellent plates, illustrating the fusion and division of the cells, some taken from photo-micrographs.

The Extraction of Beeswax. By F. C. Alford (published by the Experiment Station of the Colorado Agricultural College, U.S.A.).—This pamphlet of fourteen pages describes the experiments made in extracting wax from the combs. The classes of extractors experimented with were the solar extractors, those using steam, and those employing pressure under water at a temperature sufficiently high to melt the wax. The conclusions arrived at are that the solar extractor is only good for new combs or cappings, but does not remove dirt from old combs so well as the steam extractor. Pressure applied to the comb under hot water gives a larger percentage of wax than when the comb is pressed in steam. Heating with dilute sulphuric acid and pressing under water gave the best results.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

THE LATE M. A. F. ZOUBAREFF.

[7174.] As a regular reader of your interesting journal, I was much pleased to see in your issue of May 7 a short biography of this remarkable man, to whom we in Russia owe so much for the introduction of improved methods. I myself became a bee-keeper from reading the translation of your "Guide Book," and have carefully followed its advice, adapting the methods to our climate, which you know differs from yours. Our winters are extremely cold, the thermometer frequently going down 20 or 25 deg. Réaumur below freezing-point [—13 to —25 deg. Fahrenheit = 57 deg. of frost.—EDS., B.B.J.]; but we have not the same difficulty in wintering, as our climate is very dry, and in consequence beneficial to the bees. Bee-keeping here is carried on extensively, as the peasants generally eat honey in place of sugar, which they are unable to purchase; but not many of them have taken to frame-hives, though among the educated classes such hives are now becoming the rule. I always look forward to the B.B.J. every week, as it contains information on all that is going on in the bee-world, and frequently important articles not found in any other paper. Your articles on Dr. Maassen's work in connection with foul brood, and Dr. de Planta's respecting formic acid in honey, were very interesting. Wishing the JOURNAL continued success.—N. TCHERNAIEFF, Astrop, Russia, 4/16 July.

ROSS-SHIRE NOTES.

THE OUTLOOK.

[7175.] An excellent season has been experienced so far. Instead of the usual heavy and rapid flow we are having a long-drawn-out season, with honey coming in more or less steadily since June. No swarms have come off, and even the weaklings are occupying two supers, while the strongest stocks are storing in four, five, and even six racks of sections.

Prices as yet are 10s. per dozen. Heather is just coming into bloom, and bees are in ideal condition to reap this last most precious crop.

Finding Queens.—Can anything be more exasperating than the task of hunting up the queen, especially an unmated one, in a crowded hive? Fortunately, there is one good way which enables us to capture her majesty in less than a minute, and without handling a single frame. Set the brood-box above an extracting super, with excluder between, when a few puffs of smoke between the combs will drive down the bees, leaving the queen stranded on the excluder.

Banats.—I have no recollection of seeing these bees referred to in the B.B.J., although they are eulogised in America. Can anyone on this side give us information based on practical experience?—J. M. ELLIS, Ussie Valley, July 27.

BIRDS AND BEES.

[7176.] I should like to ask whether the fact has ever been noticed by any of your readers that birds, such as thrushes and blackbirds, avoid the near neighbourhood of bee-hives? In my garden, which is in the heart of the country, these birds are so plentiful and so bold that unless my fruit is most carefully and thoroughly netted I do not get a "look in," for they strip everything long before it is ripe enough for my taste. I happen, however, to have some raspberry canes close to my hives, which stand in a part of my garden remote from where all the other fruit is. Strange to say, these raspberries are left severely alone by the birds. They are not netted, or in any way protected, yet the birds do not touch them even if left on the canes until they are over-ripe and drop. There is no question in this case of human depredators (I know of more than one instance of fruit having been guarded from these by the proximity of a hive or two of bees), and I can only explain it on the assumption that the birds are shy of coming quite so close to the bees to carry on their thievish tricks. Perhaps "conscience makes cowards" even of blackbirds and thrushes!—G. S. NEWTH, Godstone, Surrey, July 21.

[We shall be glad if readers who have had experiences such as those indicated by our correspondent will favour us with their views.—EDS.]

SIZE OF THE STANDARD FRAME.

[7177.] There still seems to be a doubt as to the size of standard frames, although it has been repeatedly stated in the B.B.J. that the size is 8½ in. by 14 in., and 1½ in. from centre to centre, and that the brood-box should be 14½ in. wide, giving a fair ¼-in. bee-way all round, and that the standard size of shallow-frames should be 14 in. by 5½ in., all other dimensions being at the discretion of each maker. I am asking you to insert these figures because a beginner in bee-keeping assures me that the local expert tells him that the dimensions I have given above are neither standard nor regulation sizes. He also informs the beginner in question that drone foundation is the "regulation" thing for use in shallow-frames. I have read the B.B.J. for ten years, and never remember your giving that advice to a beginner. For myself, let me say I have cut out scores of shallow-frame combs and used them in deep frames. Of course they are of the proper thickness and answer perfectly. I have also a preference for the wide-ended top-bars (1½ in., cut out same as sections), and side pieces not less than ⅞ in. thick, for these can be very strongly nailed together and made perfectly true, so that *all* the bottom-bars are equidistant, thus ensuring straight combs.—A. H., Wavendon, North Bucks.

STANDARDISATION OF HIVES.

[7178.] Referring to the few remarks I made at the Franco-British Congress—briefly reported on page 291 last week—may I draw attention to the fact that my desire was to advocate the use of two hives with all parts "standardised," so that all makers' hives would be identical; in other words, both to be similar, but one of greater capacity than the other, for use in poor and rich districts respectively. I merely mentioned, incidentally, that we now have practically two standard frames, one for brood, the other for surplus honey. —O. R. FRANKENSTEIN, Farfrank Apiary, Stock, Essex.

WAX-RENDERING.

[7179.] In an early issue of the B.B.J. for this year a Mr. D. Vallance stated that with his method of rendering old combs he had no difficulty in extracting every particle of wax from the mass of cocoons and pollen. Would your correspondent kindly give a few hints as to

how it is done, as I have about 150 brood-combs to melt down now, and I always find some wax remaining among the débris on turning out when cold?—H. O. B., Reading.

JUNE RAINFALL.

Total fall, 1.23 in.
Heaviest fall in 24 hours, .36 in. on 1st.
Rain fell on 7 days.
W. HEAD, Brilley, Herefordshire.

Bee Shows to Come.

August 3 (Bank Holiday), at Cambridge.—Show of Bees and Honey.

August 3 (Bank Holiday), at Clewer, Windsor.—Show of Honey and Appliances by the Windsor Branch Berks. B.K.A.

August 3 (Bank Holiday), at Melton Constable.—North Norfolk B.K.A. Annual Show of Honey.

August 5 to 7, at Halifax.—Show of Honey, &c., in connection with the Royal Yorkshire Agricultural Society. **Entries closed.**

August 6, at Madresfield, Malvern.—Annual Show of the Worcestershire B.K.A. Open class for 12 1-lb. jars Extracted Honey. Entry forms and schedules from Geo. Richings, 2, Shrubbery-terrace, Worcester.

August 12, at Wye (Kent Honey Show).—Five Open Classes: Trophy, cup value £3 3s. (entry 1s.), 1 lb. Section, 1 lb. Light Run, 1 lb. Dark Run, 20s., 10s., 5s. in each case (entry free); Beginner's Outfit, to retail 30s. (entry free). Fifteen Classes open to Kent: Two Challenge Cups, value £6 6s., and money prizes for 6 1-lb. Sections and 6 1-lb. Jars Extracted Honey. Money prizes for 6 Jars Light, 6 Jars Medium, 6 Jars Dark Extracted Honey, 2 Shallow or Standard Frames, 3 Sections and 3 Jars, 1 Jar Granulated, Beeswax, Mead, Candy Cake Sweetened with Honey, Display of Cut Flowers, &c.; two Special Classes for Cottagers. Schedules of J. Tippen, Secretary, Wye, Kent. **Entries close August 5.**

August 12 and 13, in The Park, Taunton.—Somerset B.K.A. Annual Show, in conjunction with that of the Taunton Deane Horticultural Society. Increased Prizes. Sixteen classes, including eight open and two free. Schedules from L. E. Snelgrove, Hon. Sec., Cromla, Locking Road, Weston-super-Mare. **Entries close August 7.**

August 13, at Llangefni.—The County of Anglesey B.K.A. Honey Show. **Entries closed.**

August 14, in Public School, Portwilliam, Wigtownshire.—Honey Show in connection with the Horticultural Society. Classes for Sections and Extracted Honey, open to amateurs and cottagers. Challenge Class (open to all) for 3 1-lb. Jars Extracted Honey, prizes 20s., 12s., 8s., and 4s. Schedules from Secretary, Horticultural Society, Portwilliam, N.B.

August 19, at Lancaster.—Honey Show and Bee Demonstration, &c., in connection with the Lancaster Agricultural Society's Show. Open classes. Special prize, including silver challenge cup, value £6 10s., seven silver and bronze medals, &c. Schedules from Thos. Armistead and Son, auctioneers, Lancaster. **Entries close August 5.**

August 19 and 20, at Shrewsbury.—Annual Show of the Shropshire Bee-keepers' Association will be held in the Quarry, Shrewsbury, in connection with the Shropshire Horticultural Society's Great Floral Fête. Eight Open Classes for Honey. Free Entry for Single Bottle and Single Section. Schedules from S. Cartwright, Hon. Secretary, Shawbury, Shrewsbury. **Entries close August 7.**

August 20, at Abingdon Park, Northampton.—Honey Show of the Northants B.K.A. Special prizes for open classes, including one for single 1-lb. jar honey. (**Entry free.**) Prizes 20s., 10s., 7s. 6d., and 2s. 6d. Schedules from R. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 16.**

August 22, at Elworth, Sandbach.—In connection with the Elworth Athletic Club and Horticultural Society's Show. Class for Honey, open to the County of Chester. First prize 15s., second 7s. 6d., third 5s., for twelve 1-lb. Jars Extracted Honey; also Bronze Medal given by the Cheshire Bee-keepers' Association. Entry fee 1s. Schedules from A. E. Wright, Hon. Sec., Elworth, Sandbach. **Entries close August 15.**

August 26, at Chester (Cheshire Agricultural Society's Show). — Bee and Honey Department, under management of the C.B.K.A. Open classes for Hives, Sections, and Extracted Honey. Increased prizes. Members' classes. District class. Special prizes offered by Chester Tradesmen's Association. Schedules from T. A. Beckett, St. Werburgh's-chambers, Chester. **Entries close August 5.**

August 26 and 27, at Solihull, Warwickshire.—Show of Honey, Hives, and Appliances, in connection with the Warwickshire Agricultural Society. Schedules from J. N. Bower, Hon. Sec., Knowle, Warwickshire.

September 3, 4, and 5, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-six Classes (nine open to all). Increased Prizes and Medals. Schedules from F. B. White, Secretary, Marden House, Redhill, Surrey. **Entries close August 22.**

September 5, at Bramhall. — In connection with Bramhall Horticultural Show. Honey Section under management of C.B.K.A. Liberal prize list for Honey, Extracted or Sections, and Wax. Silver and bronze medals for Local Class. Schedules of Mr. J. Sibson, Kitts, Moss Lane, Bramhall, Stockport. **Entries close August 31.**

September 5 to 12, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Trades' Sixteenth Annual Exhibition and Market. (See large advertisement on page iv.) **Open to all British Bee-keepers.** Entry fee in each class 1s. Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 9, at Wilmslow, Cheshire.—In connection with Adlington and East Cheshire Agricultural Society. Honey Section under the management of the C.B.K.A. Bronze medal for District Class. Liberal Prizes. Open and District Classes. Schedules of Mr. J. Sibson, Bramhall, Stockport. **Entries close August 31.**

September 12, at Dumfries.—Annual Show of South of Scotland B.K.A. Five Open Classes: 3 Bottles, 20s., 12s., and 6s.; 3 Sections, 15s., 10s., and 5s. (entry 2s.); 1 Bottle, also 1 Section, 5s., 3s., and 2s. (entry free, and exhibits retained unless otherwise agreed upon); Beeswax, 5s., 3s., and 2s. (entry 6d.). Thirteen classes for members. Schedules from Q. Aird, Hardgate School House, Dalbeattie, N.B. **Entries close September 5.**

September 14, at Conway, N. Wales.—Annual Honey Show, in connection with the Conway Honey Fair. Open and Local Classes. Schedules from J. Hughes, Town Hall, Conway. **Entries close September 7.**

September 19 to 26, at the Agricultural Hall, London.—Honey Show in connection with the Sixteenth Annual Exhibition and Market of the Grocery and Kindred Trades. (See large advertisement on page iv.) Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.** Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 23, at Altrincham.—Honey Show in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. Classes for Trophy of Honey, for Best Hive, Observatory Hive with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester, for Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low entrance fees. Schedules from Mr. J. Herbert Hall, 2, Dunham Road, Altrincham. **Entries close September 5.**

Queries and Replies.

[3752.] *Brood in Supers.*—I have had a curious experience with one of my stocks, on which I should be glad of your opinion. It was exceedingly strong, headed by a queen of June, 1906, and on May 24 last I put on a crate of eight shallow-frames, containing fully drawn-out drone-combs. I, of course, put on queen-excluder. On looking at the ends of the combs, and finding capped honey on all but the two outside ones, on June 14 I lifted the crate and put a second similar one underneath. On the 28th I took off the quilt, and, for the first time, saw the middle of the combs, finding, to my great disgust, a considerable quantity of drone-brood. I took the supers off on the 29th, expecting to find the excluder carelessly put on, but it was not so, and as I could find no way up for a queen, I left it untouched. I then brushed all bees off the lower crate, which contained a lot of uncapped honey, and put it back; did the same with the upper crate, and cut out all brood down to the foundation. There were a lot of bees and many drones hatched out, so I did not look carefully for a queen. It took over three-quarters of an hour as it was. There were three queen-cells in the upper super, one of which appears to have been tenanted. Do you think that the bees had carried eggs into the super and raised a queen there, which could not get down, but laid the drone-eggs, or that a young queen hatched below had squeezed her way upstairs in her virgin state? I have not been through the brood-nest since to ascertain the position there, as they are working very well, and there is a good honey flow on from the clover. I may learn more when I examine them after the supers are off, but think the experience sufficiently interesting to ask you for an opinion. Thanking you in anticipation.—J. B., Solihull, July 8.

REPLY.—It is probable that the 1906 queen was superseded, and one of the virgin queens had got through the excluder and laid the drone-eggs. On the other hand, if, as you say, a queen-cell in upper super appears to have been tenanted, it is possible that the bees may have transported eggs from below, and the queen have been hatched in the super.

[3753.] *Introducing Queen.*—Would you be good enough to answer the following questions? I possess three stocks of bees; two are all that is good, but one is all that is bad. They are bad comb-builders, dirty, sticking up everything with propolis, and last, but not least, almost unmanageable. I raised a fertile young queen from my best stock, as instructed in the "Guide Book," to re-queen this vicious stock; but the weather was bad when I had the time, and the day after, a fortnight ago, they sent out a large swarm. Now, with the words of the "Guide Book" still fresh in my memory that "queens are very easily introduced to swarms," I thought that here was a good opportunity to re-queen and return them to the old hive. I first destroyed all queen-cells (there were nineteen) in the parent hive, caught the old queen as I was hiving the swarm, and dropped my young one amongst the bees as they entered the hive; but the fiends attacked her at once, and before she could enter the hive or I could rescue her, they ill-treated her (I believe I saw them sting her) so that she died. I gave them back their ill-tempered old mother, and yesterday examined them, and found no more queen-cells, but two new combs nearly full of pollen. They are working fairly well in sections. Now, 1. Why did they kill the young queen given to them? 2. Would the best time to re-queen them be in August, after the sections are off, as they go mad when the hive is opened at present? 3. Can I get the fresh pollen out of the combs without injuring them, as they are new? Probably this letter may make some old bee-keepers smile at my ignorance, but I am only a—1907 BEGINNER, July 8.

REPLY.—1. It is always difficult to introduce queens to vicious colonies such as yours, and extra precautions should be taken. If you will compare what is stated in "Guide Book" on page 141 with what you did, you will see that you did not fully carry out the instructions, as your stock was not reduced to the condition of a swarm. 2. The best time to re-queen is when there is plenty of hatching-brood and to reduce risk use one of the cages recommended, and follow out the instructions carefully. Bear in mind that bees do nothing invariably. 3. You cannot get the pollen out of the combs without cutting it out, but the bees will use it for brood-rearing if left.

[3754.] *"Alexander" System of Preventing Swarming.*—I started bee-keeping two seasons ago, and as I am not very far advanced I should be obliged if you would answer the following questions. I may say I have the "Guide Book," and also get the B.B.J. regularly every week. 1. When fitting a hive for a new swarm, can the frames in brood-nest be all spaced so as to raise worker-brood only? 2. Is the queen that issues with a swarm fertilised before leaving the hive? 3. A correspondent writing on "Curious Swarming Incidents" (7163, page 265), in B.B.J. for July 2, mentions working on the "Alexander" system to prevent swarming. Would you kindly describe it?—ALPHA, Dunfermline, July 8.

REPLY.—1. If the frames are completely filled with sheets of worker-comb foundation, worker-brood will be raised. Any spaces not filled with such foundation may be used for drone-cells, and sometimes, although rarely, bees will try to build drone-cells on worker-foundation if it has stretched through being improperly wired. 2. The queen issuing with a first swarm is usually the old one, and is consequently fertilised. 3. The "Alexander" system is to divide a colony to prevent it swarming. Lift the colony from its stand, and put in its place a hive containing frames of comb or full sheets of foundation. Remove the centre comb of this hive, and put in its place a frame of brood from the hive you wish to divide; and be sure you find the queen and put her on this frame of brood in the new hive. Then put a queen-excluder on top of this new hive that contains the queen and frame of brood with the empty combs; then set the old queenless colony on top of excluder, put the frame of foundation in the place of that taken from the old colony, and close up the hives, except the main entrance. Leave them for ten or eleven days, during which time the queen will get a lot of brood started in the lower hive, and every egg and larva in the old hive on top will be capped over and saved. They can then be separated, putting the old hive on a new stand. It will be full of mostly young bees and capped brood, and in about twenty-four hours they will accept a ripe queen-cell, or a virgin queen or laying queen, as they will realise they are hopelessly queenless.

[3755.] *Removing Bees from Trees and Outbuildings, and Utilising Driven Bees.*—1. Can you please tell me the proper method of taking stocks (originally escaped swarms) of bees from hollow trees, outbuildings (under the roofs mostly), &c.? I know of several swarms in trees, and several more in outbuildings, which are very troublesome to persons passing in and out, and the owners of these buildings have asked me to try to remove them. I have promised to do this in a week or two's time, and meanwhile am writing you for advice. I have never seen the method described in the B.B.J., nor in Webster's "Book of Bee-keeping," and I do not possess a copy of the "British Bee-keeper's

Guide Book," though I mean to obtain one soon. Does it ("Guide Book") give directions for taking bees from trees or from house-roofs and outbuildings? 2. Many persons about here keep their bees in skeps, and destroy the bees once yearly when they take the honey; but some of them do not like to destroy them, and have promised me the bees if I care to "drive" them this year (in August). Would these "driven" bees be any use to me if I drove them into empty skeps and fed them, and transferred to bar-frame hives when ready next spring; or are they old bees, and worn out? I send name for reference, and thank you in anticipation of a reply through your valuable paper as early as possible.—NOVICE, July 8.

REPLY.—1. Subdue the bees with smoke, saw off the tree above the bees, then saw through below, and carry away the hollow trunk containing the bees, which can either be driven out, or, if this is not possible, each comb can be cut out separately and the bees brushed off into a hive. From outbuildings you must remove slates or tiles above where the bees are situated, smoke the bees to subdue them, then remove more tiles to expose the nest. Cut out the combs one at a time, brushing the bees into an empty hive. Any combs containing brood may be temporarily fitted into frames for the brood to hatch out. Be sure to look for and secure the queen, which should be put with the bees as soon as possible, so that they do not desert the hive. Getting bees from trees and outbuildings, although frequently mentioned in the B.B.J., does not come within the regular work of a bee-keeper, and is consequently not mentioned in bee-books. Circumstances under which bees are found in these conditions vary so much that the bee-keeper, knowing the general principles, has to adapt his operations to suit the conditions. 2. Certainly, driven bees are most useful, and can be easily built up into stocks. Full particulars are given in "Guide Book" about "Building Up Stocks," on page 151, and "Utilising Driven Bees," on page 154.

Notices to Correspondents.

*** *Queen Bees from Italy.*—Mr. Enrico Penna, Bologna, Italy (whose advertisement appears on page ii. of this issue), writes as follows:—"On June 24 I sent a queen bee to Mr. Howard, St. Joseph's Wood, Bristol. Yesterday (July 17) the queen was returned to me dead in her unspoiled (*i.e.*, unopened) box, with the word 'Unknown' written thereon. If you know this gentleman please let me have his address." We do not know Mr. Howard's address, and, in consequence, can do no more than print the above, hoping it may meet his eye if a reader.

THE MISSING LINK (Rathfarnham, co. Dublin).—*Bees Storing Honey in Brood-chamber.*—1. Your hive being queenless, the bees have filled the empty combs in brood-chamber with honey. As the stock has a queen now, and is very strong, you should extract the honey, so as to give the queen more empty cells in which to rear brood. 2. On page 12 of "British Bee-keeper's Guide Book" you will find full particulars about fertile workers, and an illustration of a comb of brood of such a worker, which will enable you easily to recognise if one is present. 3. If there are young hatching bees, a virgin queen might be accepted. It is, however, better to break up the colony, and divide it among strong colonies having fertile queens (see page 123 of "Guide Book"). 4. Yes; two queens can be kept in a "Wells" hive, separated by queen-excluder, if proper precautions are taken in introducing them. 5. Yes; bees generally send out scouts in the first place.

A "BEE JOURNAL" READER (Sudbury). — *Taking Bees and Honey from House-roofs.*—This is a task few beginners can get through with much chance of success, unless they have seen it done. Broadly speaking, we may say the slates, or boards, or plaster, whichever of these cover up the bees and combs from sight and touch, must be removed, and the combs exposed to the operator, who, with a box of some kind ready at hand, must subdue the bees by means of smoke, cut away the combs one by one, and, after brushing off the bees, put all those containing honey only into a dish for removal. The brood-combs are kept apart after having the bees brushed from them, the bees being secured by running them into an empty box, while the combs are carried off for tying into frames prior to being placed in a frame-hive. There are a score or more things to explain before the above can be carried out, but, as already said, a novice should have the help of someone with experience before he can hope to succeed. It may be useful for our correspondent to read the letter of a lady bee-keeper in South Africa in the B.B.J. of May 21 last (page 204). He will gather a few hints therefrom that may be useful, if suggestive of the trials incurred by a beginner.

ANXIOUS (Haslemere, Surrey).—*Bees Not Working.*—We do not think the trouble arises from the cause named. In the present good weather, with honey coming in well in your county, there should be no need for feeding the bees. We should examine the combs in the particular hive in question, and note the condition of the food; if stores are short there must be some plain reason for feeding being required, which may account for the bees not working. In some cases we have heard of the bees are less vigorous than usual, owing to the bad season of last year, and being wintered on unsuitable food. You might try giving a comb or two from another stock half filled with new honey. This might possibly rouse the bees into activity.

F. WINGATE (Tulse Hill).—*Thin Honey in Sections.*—If the thin honey in the sections has not fermented, you can use it for mixing with bee food in autumn, but it would be advisable to boil it up and add sugar to thicken it.

H. CAMPBELL (Lancaster Gate).—*Fermented Syrup.*—This is not at all suitable for bee food, even if boiled.

L. S. D. (Lee, S.E.).—*Bees near Thoroughfares.*—If there is nothing but a 6-ft. fence separating the hives from the street, it would be very difficult to avoid risk to passers-by. We should not advise an apiary being started in such a position.

B. B. B. (Royston).—*Prices of Honey.*—We are reserving your letter—along with others—and will make use of it in the desired direction shortly. Meantime, no appreciable harm is being done to traders in the way you fear.

T. ORMESHER (Ormskirk).—*Raw Sugar for Bee Food.*—We do not recommend the use of raw cane-sugar for bee food. It is certainly less harmful for spring use than in winter, because the bees can take frequent flights, but the treacle or molasses should be removed from sugar used in preparing winter food for obvious reasons. Refined crystals of pure cane sugar is by far the best kind to use.

KITTA (St. Asaph).—*Suspected "Robbing."*—The bees sent show none of the usual "shiny look" observable about robber bees. It is probably only a temporary trouble, and will soon pass away.

CORNISH (St. Austell).—The stock is evidently headed by an unmated queen, as shown by the worker cells all occupied by drone-brood.

Suspected Combs.

G. MOIR (Cumberland).—There is no disease in comb sent, but its condition plainly indicates

that the stock has been in a bad way for a long time past. Such combs as sample are unfit for use in any hive, and should be put out of sight by burning, as being worse than useless.

W. H. R. (Wisbech).—The brood in sample No. 1 is not that of a laying worker, as you suppose, the cells being all filled with larvæ packed as close as possible. We see no trace of foul brood in the dead larvæ. No. 2 is drone brood, and is, therefore, of no use for diagnosing disease in the larvæ. It shows that the queen is unmated. No. 3 is affected with foul brood of mild type. If the stock is strong it would be well to get the bees off the combs and treated according to the directions on page 180 of the "Guide Book."

DISAPPOINTED (Heswall).—The bit of comb sent is very old and black, which accounts for the dark-coloured cappings; but some of the dead larvæ appears to be affected with the disease known as black brood; while the greater portion is normal in colour and form.

Honey Samples.

M. E. VARTY (Pleasley, Notts.).—An excellent sample of clover honey; fit for any show-bench. Do not select the darker sample mentioned on any account.

L. ANDREWS (Longthorpe).—Sample is very good clover honey, but would need clearing from the small particles of wax by straining through fine muslin before staging it on the show-bench.

R. S. M. (Strabane).—Your sample is so good that it will stand well wherever shown. You need not fear crossing the Border to compete at English shows with such honey. It should be staged in the "light" class.

IDEJA (S. Herefordshire).—The above remarks apply to your sample. The colour and density are good.

F. (Wellington).—Sample is mainly from clover, and will do very well for local shows; but in a strong competition it would lose somewhat on the point of consistency.

A. S. W. (Hereford).—Very good sample; quite fit for staging "at a fairly large show," as stated.

B. (Lewes).—Sample is of excellent quality on all points.

B. H. L. (Birmingham).—1. We cannot judge the quality of sections from a bit of broken comb sent in a cardboard box and leaking very much in post. The honey is from clover, and of good quality, and if sections are clean and well filled they should sell at from 10d. to 1s. each. 2. This is a good time for taking hives to the moors.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

3 DARK BRAHMA PULLETS and 1 COCKEREL (1907), very large; 5 Redcap Pullets. Exchange anything in Bee Appliances, Drawn-out Combs preferred.—BOOKER, Station-road, Shirebrook. j 6

STRONG LOTS HEALTHY DRIVEN BEES, with young fertile 1908 Queen, 5s. per lot.—THOS. BRADFORD, Bee Expert, Worcester. j 12

PROLIFIC YOUNG QUEENS, with Introducing Cage, 3s.—BR. COLUMBAN, Buckfast Abbey, Devon. j 14

A FEW LOTS OF DRIVEN BEES, from August 20 to 30, 1s. 3d. per lb, guaranteed free from disease.—T. DANES, Snaksbury Cottage, Newington, near Sittingbourne. j 16

GARDENER, YOUNG, seeks employment amongst outside fruit, vegetables, and bees.—"ROOTS," c/o "Bee Journal." j 2

Special Prepaid Advertisements.—*Continued.*

PURE ITALIAN QUEENS, Tested 6s., Imported 5s.; Virgins, Root's Red Clover Strain, 2s. 3d.; Pure Black, 3s.; Virgins, 1s. 6d.; 4-Frame Italian Nucleus, with Queen, 16s.; Black, 12s. 6d.; Hives with Bees by arrangement.—G. THOMAS, Pwllcrochan Rectory, Pembroke. h 57

FINEST SCOTCH CLOVER HONEY, £3 cwt.; samples 3d.—T. RULE, Summervale Apiary, Annan, Dumfriesshire. j 1

5 STRONG STOCKS, in Bar-frame Hives; also various appliances. £4.—WINCER, Glendower, Hedge End, near Botley. h 99

DRIVEN BEES FOR SALE, 1s. 3d. lb., in lots of 5 lb. and 6 lb., cash with order; empty boxes to be returned carriage paid; commence Driving after second week in August.—S. BAILEY, Two Mile Ash, near Horsham. h 97

"LITTLE WONDER" EXTRACTOR for sale, 7s. 6d.—J. B. FENNY, Kirkby-in-Cleveland, Stokesley, S.O. h 96

TALL SECTIONS WANTED, 5 by 4 preferred.—Particulars to L. S. CRAWSHAW, Burnside, Ilkley. j 3

HANDY MAN, single, wants a situation to assist gardener, understands Bees.—"GARDENER," c/o "Bee Journal." j 6

WANTED, Good Secondhand Honey Extractor, cheap for cash.—SANDERS, 259, Colemanstreet, Whitmore Reans, Wolverhampton, j 7

6 HEALTHY LOTS OF BEES, on 10 Standard Frames, in good double-walled Hives, owner leaving; also Driven Bees.—G. TURL, Colyton, Devon. j 9

4-FRAME NUCLEI, containing Young Native Queen, 12s. 6d.—A. J. BUTLER, F.R.H.S., Westville, Scotter, Lincoln. j 11

WANTED, Clean-combed Section Crates, complete.—A. DOWNING, Bank-street, Mexborough, Rotherham. j 10

W. HAMBROOK, Church Farm, Newington, Sittingbourne, gives Notice that all his Driven Bees are sold. j 17

BLACK FERTILE QUEENS, very hardy, 1908, 3s., 1907 2s.—ROBERTSON, Benview, Dumbarton. h 93

FIRST-CLASS EXPERT desires Engagements, Lectures or Demonstrations, latter part August-September. Terms reasonable.—BANKS, Bee Expert, Wragby, Lincs. h 95

2 HONEY EXTRACTORS, geared; 1 "Little Wonder."—Particulars of ADAM DUNTON, Biggleswade. h 94

1908 FERTILE QUEENS, Sladen's or Woodley's Blacks, 3s. 6d., safe arrival guaranteed, in Introducing Cages.—TOLLINGTON, Woodbine Apiary, Hathern. j 15

WANTED, 8 lb. lot of Driven Bees, guaranteed healthy, and with 1908 Queen. Will give 1s. 2d. lb.—BORDESSA, c/o Swift, Alvanley, Helsby, near Warrington. j 2

SECTIONS AND EXTRACTED HONEY WANTED.—State price to T. SMITH AND CO., Cambridge-street, Hyde Park, W. j 5

2 STOCKS FIRST CROSS GOLDEN BEES, one in Double-walled Hive, 25s.; one in "W.B.C." Brood Box, 16s.; overstocked.—POTTER, 73, Seaview, New Brompton, Kent. h 98

FOR SALE, 150 lb. White Clover Honey, £3 cwt.; samples 3d.—Apply, H. COLLIER, Nayland, Colchester. j 13

SPLENDID WHITE CLOVER HONEY, £3 per cwt.; sample 3d.—ALBERT COE, Ridgewell, Halstead, Essex. j 8

HEALTHY DRIVEN BEES, good lots, Young Queens, delivery August. 5s. per lot, boxes free.—H. KEMP Frome, Somerset. j 4

"THE PREPARATION OF HONEY AND WAX FOR THE SHOW BENCH," post free 7d.—JOSEPH TINSLEY, Chebsey, near Stafford. h 24

Special Prepaid Advertisements.—*Continued.*

VARIABLE SEASONS.—The "S. J. B." tested and guaranteed Queens, producing the best of workers. Unqualified success. Safe delivery guaranteed. 4s. 6d. each.—BALDWIN, Apiary, Bromley, Kent.

HEALTHY DRIVEN BEES, commencing August 1. 4s. per lot, with Queen Boxes, to be returned. Orders rotation. Cash with order.—T. PULLEN, Ramsbury, Hungerford. h 84

HEALTHY DRIVEN BEES WANTED, for sending to moors, first and second week in August, in 4, 6, or 8 lb. lots. Will give 1s. per lb., provide Travelling Boxes, and pay carriage. Cash by return post after receipt of Bees.—J. BALMBRA, East Parade, Alnwick.

GLAZED SECTIONS WANTED, any quantity. State price, must be light and new. Honey and Sections also received for Sale on Commission. —THE HONIELADE CO., 23, Moorfields, E.C. h 90

TO LET, 5-roomed Cottage, large Garden, Orchard, suitable for Bees and Poultry. Owner will sell 16 Stocks of Bees, Fowls, Bicycle-shed, Fowlhouses, Wire-fencing.—"Roseben," Norton-by-Baldock, Herts. h 62

LOOK! LOOK! LOOK! Genuine "W.B.C.," with 10 Frames and Rack of Sections, 15s., fitted with wired Foundation, 19s.; Cottage Hive Fittings, as above, 9s. 6d. to 13s. 6d.; Driven Bees like these Hives. Try one now. —SOUTHERN BEE SUPPLY CO., Hellingly, Sussex.

STOCKS OF 8 STANDARD FRAMES, Comb and Brood, 22s. 6d.; 10 ditto, 25s. 6d.; 3-Frame Nucleus, 12s. 6d.; 1908 Fertile Queen; or exchange good Extracted Honey. Hives supplied if required. —W. WOODS, Normandy, near Guildford. h 53

SECTION GLAZING.—Best quality Lace Paper, made especially for Bee-keepers' use, not common box edging, white, 100 6d., 300 1s. 4d., 500 2s. 3d., 1,000 3s. 9d., post free; blue, green, or pink, 100 7d., 300 1s. 6d., 500 2s. 6d.; Lace Bands, 2⅞in., 3in., and 3⅛in. wide, white, 100 1s. 2d., 200 2s. 3d., 500 4s.; a few in pink and blue, 100 1s. 4d., 200 2s 6d.—W. WOODLEY, Beedon, Newbury.

NEW HONEY BOUGHT IN ANY QUANTITY for prompt cash; packages sent for it if desired. Best price quoted on receipt of sample. State quantity.—SPRING AND CO., LTD., Brigg, Lincs. h 32

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas Isle of Man.

CLOVER HONEY, good quality, 1 lb. Screw-cap Jars, 77s. gross, 21s. ¼ gross; ½ lb. ditto, 45s. gross, 13s. ¼ gross; Honey, in bulk, 48s. cwt.; samples, carriage paid, 8d. — Further prices and particulars from TURNER BROS., Sandpit Poultry Farm, Croydon. e 86

BEESWAX, guaranteed pure, 1 oz. tablets, 1s. 9d. lb., £8 17s. cwt.; in bulk, 1s. 6d. lb., £7 15s. cwt.; samples, 3d.—TURNER BROS., Sandpit Poultry Farm, Croydon. e 87

DRIVEN BEES.

August, 1/6 per lb.; Sept., 1/3 per lb.

Not less than 4 lb. recommended.

HEALTHY AND SAFE DELIVERY.

Customer writes: "The driven bees I had from you have turned out my best stocks this spring."

Also **FERTILE 1908 QUEENS, 3/- ea.,**

In Introducing Cage. Early inquiries recommended.

DAVIDSON, BEECROFT, BASINGSTOKE.

SLADEN'S "BRITISH GOLDEN" BEE.

Fertile Queens, 10/6 each. Virgins, 2/6, post free.

Young Fertile English Queens, in August.. 3/6 each.
American Golden Fertile 1908 Queens .. 6/6 each.
Pure Imported Italian Fertile Queens .. 6/6 each.
Pure Imported Carniolan Fertile Queens.. 8/6 each

These Queens are imported from reliable breeders in their respective countries, and will produce pure workers.

For full particulars, see Sladen's Complete Catalogue of Bees and Queen-Rearing Appliances, post free 2d.

Bees and Queens Exported.

F. W. L. SLADEN, RIPPLE COURT APIARY, near DOVER.

DON'T GET STUNG,

when by using **APIFUGE** you can easily prevent it.

APIFUGE will also be found extremely useful for travellers in foreign countries where insect pests abound. Bottles, 1/- post free.

S. E. GRIMSHAW, 4, Reginald Place, Chapeltown, **LEEDS.**

EVERYTHING FOR BEES.

1-lb. HONEY GLASSES,

Screw Caps and Cork Wads.

One Gross 16/- Three Gross at 15/3.

12-FRAME HIVE, with Crate, **15/6.**

AUSTIN & McASLAN, 89, Mitchell St., Glasgow.

QUEENS! QUEENS!

BRICE'S SPECIAL HYBRIDS.

	July to Sept.
SELECTED AND TESTED QUEENS ..	5/0
VIRGIN QUEENS	2/6
PURE ENGLISH QUEENS	4/6
VIRGIN QUEENS	2/3

Write for full Price List.

All Correspondence to **BRICE'S APIARIES, 88, Brigstock Road Thornton Heath.**

CARTMEL AGRICULTURAL SOCIETY.

36th Annual Show.

AUGUST 25th, 1908.

Entries close August 13th.

OPEN CLASSES FOR HONEY AND WAX.

The Lancashire Bee-keepers' Association's Silver and Bronze Medals for Honey.

Judge—MR. J. N. BOLD. Schedules ready.

J. N. PARKER, Secretary, **Cartmel, Lancs.**

COOKSLEY'S IMPORTED

ITALIAN GOLDEN QUEENS.

3/6 each. *Selected and Tested,* **Guaranteed Pure Fertiles.** **3/6 each.**

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THE

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

REGISTERED FOR TRANSMISSION AS A NEWSPAPER.] [ENTERED AT STATIONERS' HALL.

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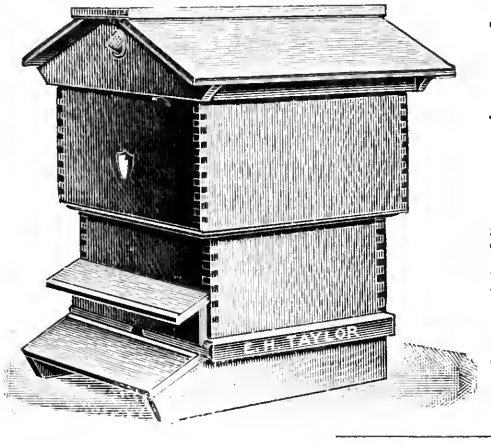

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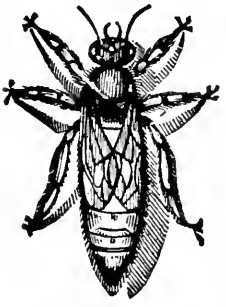

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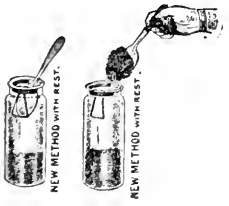

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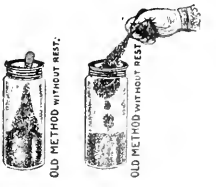

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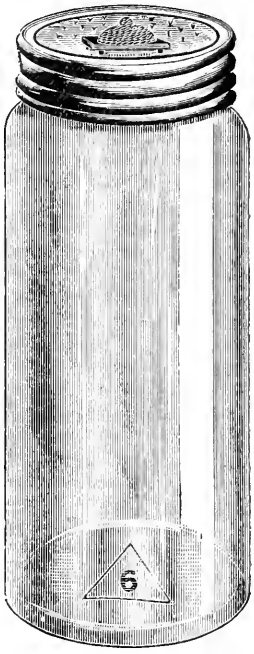

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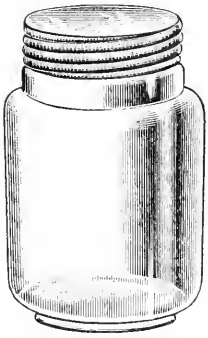

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In order to induce Bee-keepers to compete for the liberal prizes offered, the entry fee has been fixed at One Shilling in each class.

Editorial, Notices, &c.

CONGRESS OF BEE-KEEPERS.

(*Concluded from page* 304.)

THE INFLUENCE OF MORE THAN ONE QUEEN IN THE SAME HIVE.

This was the final subject dealt with, and in the absence of the French bee-keeper to whom the question was allotted Mr. T. W. Cowan introduced the discussion. He said:—All bee-keepers have from time to time found two queens tolerated in the same hive, and recently there had been much correspondence in bee-papers on the subject.

So long ago as 1890 Mr. George Wells introduced the system of having two queens in a hive. By his method the two queens were kept apart by means of a sheet of perforated zinc, and when the stock was ready for supers he placed a queen-excluder on top of the frames and supers above, so that the bees of both compartments had free access to either side. He found that breeding went on so fast that an ordinary hive was too small, therefore he devised what is known as the "Wells" hive. This is double the length of an ordinary hive and contains twenty frames; it is divided in the middle by a division-board perforated with small holes. Two colonies are put in, one on either side of the division-board, each having a separate entrance, so that at first the bees do not mix. When ready for supering a sheet of queen-excluder is placed over the frames, as already mentioned above, so that the bees of the two colonies intermingle and work in a super common to both. It was found that the bees worked peaceably together because, being in the first place separated by the wooden perforated division-board, they had acquired the same scent and laboured as a united family. Experience also showed that two lots of bees not only wintered better but consumed less food than two colonies in ordinary hives. For the purpose of comparing honey yields Mr. Wells worked five hives with single queens and five with two queens in each respectively, and the result was that whereas the single-queen stocks gave an average of 41 lb. each, the double-queen stocks averaged 158 lb., or very nearly double what two stocks with one queen each would give. The year in which this trial was made proved an exceptionally good season, but Mr. Wells subsequently obtained an average of 130 lb. from such hives, showing that in the production of honey there was an advantage of having two queens in a hive. There was also less tendency to swarm, and, no doubt, in places where there was a steady flow of nectar the yield of honey was very great. The system, however, has not come into general use for several reasons. First, the hives are large and unwieldy; second, it was found that in winter the cluster sometimes separated, and instead of the two lots keeping close to the division board, one side attracted more bees than the other, so that one colony flourished at the expense of the other; lastly, in operating, bees were needlessly disturbed, and frequently one of the queens was found missing in the spring. On the whole, therefore, it appeared to be a system that could be advantageously worked only by an expert bee-keeper.

The plural-queen system has been tried in America, and Mr. Alexander has shown that several queens can at times be made to live peaceably together in the same hive even without separators, and also that several queens can be introduced at the same time if certain precautions are taken. The principle is based upon the well-known fact that bees and queens of different stocks possess a distinct odour and that they will unite peaceably if they all acquire the same scent. In introducing several queens Mr. Alexander proceeds in the following manner: He prepares a small box which is partly covered on two sides with wire-cloth. The queen of the hive to which it is intended to introduce several queens is removed and placed in a cage, and about a pint of bees shaken from the combs into the introducing-box. The combs are then removed from the colony and placed on some other hive until the next day, when the brood-less hive is half filled with combs containing honey but no brood. After the bees have been confined in the introducing-box for five hours and have realised their loss of the queen, they are fed with thin, warm honey, and when all are well filled they are shaken up, after which any number of queens (including their own) can be run in at a hole provided for the purpose. This done, the bees are again allowed to have as much of this thin honey as they can consume, and are then placed by the queenless colony, which is fed with the same honey as that given to the others, some of which is first poured into the combs and then shaken out over the bees so that every bee has partaken of the same food. The cover of the introducing-box is removed at sundown and the box placed alongside of the combs; the hive is then closed up, and by the next morning the bees will have clustered with the queens on the combs, which can then be removed and the original combs of brood returned.

In this way it has been shown that several queens can exist in the same hive during a flow of nectar, but at the end of the season all but one of the queens gene-

rally disappear; indeed, Mr. Alexander himself admits that here—as he says—he is "up against a rock," and does not understand why queens can live together from May to October and then sting each other. I think it probable that during a strong flow of nectar each queen is surrounded by her own group of bees, and in this way the queens are kept apart. Although it is stated that under this plan there is less tendency for the bees to swarm, Mr. Alexander's system is complicated, and requires even more skill than that of Mr. Wells to work it. On the whole, therefore, I do not think that more than two queens in a hive are practicable or even desirable.

Mr. F. R. Beuhne, president Victoria Apiarists' Association, said: I am pleased this subject has come up for discussion, as it is one in which I have taken much interest for many years. The system as explained by Mr. Cowan does not lend itself to our system of bee-keeping in Australia; we allow the queen, or queens, the full range of a storied hive during the first part of the season, and so secure an abundance of workers during the time when the rapid in-take of nectar, and maybe scarcity of pollen, tend to reduce brood-raising.

Like most bee-keepers of experience, I found cases in my apiary of two queens (mother and daughter) working peaceably side by side in the same hive, and it occurred to me that this peculiarity might be made use of to increase the strength of a colony, and thus to add to the honey-yield. In every case in which two queens were found the mother-bee was at least two and a half years old, and on removal of her daughter a queen-cell (in a cell-protector) could be inserted, from which a queen would hatch, mate, and commence laying. I could also repeat this as long as the honey-flow continued. I was equally successful with queens in their third year, but which had previously taken no part in queen-superseding. I further extended this system by the use of a queen-excluder between upper and lower chambers till I obtained two young laying queens in the same hive, one above and one below the excluder. In many instances I allowed two, three, or even four queens to remain in one hive for several months, but I am forced to the conclusion that as a means of increasing the honey-yield the plurality of queens is not a success.

Although I never kill a queen merely because of its age, I get rid of all, young or old, which do not come up to my standard. This process of elimination secures the very best queens, which live three years and over, and ensures the longevity so desirable and advantageous in our worker-bees.

Although the plural-queen system has not, in my case, given the increase of honey looked for, it has provided a means of raising some first-class queens without the use of nuclei and without drawing on my worker force to the curtailment of the honey-yield.

In conclusion, I may say that whenever I have allowed a colony to go into winter quarters with a young queen and an old one on the same combs the old one would be missing in spring. I have, however, on one occasion wintered two old queens together.

Colonel Walker inquired of Mr. Beuhne whether he did not find that the addition of a second queen was apt to induce swarming. Mr. Beuhne replied that the effect was in the opposite direction.

Mr. J. B. Lamb suggested that the theories of Mr. F. R. Beuhne as to allowing queens to live to an old age would not find favour in England, and said that he had been mentally calculating how many eggs a queen would lay in her lifetime if she were allowed to live for four years, and if the honey-flow continued for nine months or longer, as was evidently the case in some parts of Australia. It was estimated that an average queen could lay two to three thousand eggs per day in the height of the season, and under the circumstances referred to the number of eggs laid would be far beyond the half a million usually credited to a queen.

Colonel Walker questioned whether a queen did lay so many as two to three thousand eggs per day, and suggested that though this was possible, it could not be carried out in practice. Depositing eggs in cells was not like discharging projectiles from a machine gun. As soon as the obviously vacant cells—and especially those on a fresh sheet of foundation—were filled, more time was occupied by the queen in looking for empty cells than she was able to devote to laying. Moreover, she could not continue to lay throughout the whole twenty-four hours, but, like other hard-working creatures, had to cease for rest and refreshment.

In reply, Mr. Lamb said that Colonel Walker's observations as to the time taken by a queen in laying eggs were doubtless made in an observatory-hive, but he reminded the meeting that a vigorous queen in a strong stock would be working under very different circumstances. He (the speaker) had satisfied himself time after time that a queen could lay three thousand eggs per day by a simple test. He put two frames containing sheets of foundation in a strong colony with a young queen, the bees being rapidly fed, and they worked out the foundation into combs, which were filled with eggs, in three days. As a standard

comb contained approximately 4,800 cells, it would be seen that over 9,000 eggs would thus be laid in the three days. By using a strong stock for the purpose of building combs and raising brood in this way (a system advocated by Mr. Simmins about ten or twelve years ago), one strong stock with a vigorous queen would be able to strengthen other stocks in need of assistance. When he (the speaker) worked queens in this way he found it advantageous to keep them only about fifteen months; that is to say, a queen hatched in June would be deposed at the end of the season the following year.

In answer to questions by Mr. Lamb, Mr. Beuhne said: Although our breeding season extends over nine months, the laying capacity of the queen is not taxed to its limit, excepting perhaps for a short time just before the honey-flow. The rapid income of honey, due to the immense field force resulting from the brood raised earlier, restricts the queen in egg-laying, which at times almost comes to a standstill. Thus, although the breeding season is much longer in Australia, a certain percentage of queens may be fully as prolific in their third year as at any time previous. But I am of opinion that the laying capacity of a young queen is never brought into full play in any hive, excepting by the removal of combs containing eggs and the substitution of empty ones.

Mr. W. Herrod wished to ask their friend, Mr. Beuhne, the following questions connected with his system of keeping old and young queens in the same hive:—1. What advantage is gained by allowing an old queen to live along with a young one in the hive? 2. How do you account for bees allowing two old queens to winter in the hive, but not an old and a young one? 3. Do you find queens so prolific as to consider it advisable to keep them till the fifth year, and might not the age of queens so kept have caused the necessity of keeping two queens in one hive to arise? 4. Do you contend that the harder a queen is worked the longer she will live and the more prolific she will be?

Mr. Beuhne's replies were as follows:—1. In my experience, there is little, if any, advantage, so far as the yield of honey is concerned, in having two queens in one hive. A good queen (and I suffer no other to remain) is capable of producing all the eggs a colony can, or will, rear into bees. I find, however, that allowing a queen-cell to hatch in a colony headed by a three-year-old queen, and permitting the young queen to remain till she is mated and laying, is an easy way of obtaining spare queens almost without any labour. 2. I do not know how to account for it; I only know that such is the case. It appears to me that when an old queen and a young one are present in a hive at the beginning of winter the old queen dies from neglect; whereas when two old ones are present both are equally attended to. 3. I replace all queens, regardless of age, which do not come up to my standard of prolificness; therefore, only a limited number reach the age of three or over. As all queens have to conform to this standard of prolificness, no second queen is needed to assist. However, I sometimes transfer three-year-old queens to nuclei, after I have established a young laying queen in their hive. (The fourth question was not answered at the meeting.)

This concluded the business of the Congress.

BEE-PEST (IRELAND) BILL.

THE BILL FINALLY PASSED.

Our readers will learn, no doubt with mingled feelings, that the Bill named as above, but more generally known as the Foul Brood Bill, was introduced in the House of Commons as a Government measure by the Vice-President of the Department of Agriculture and Technical Instruction (Ireland), Mr. T. W. Russell, on June 18, and passed its second and third readings on July 10 and 13 respectively. Since then the Bill has been before the House of Lords, and, after amendment, passed through committee there, and was accepted by the Commons. It has now received the Royal assent, and is therefore practically the law of the land in the Green Isle. Foul brood will, therefore, in future be dealt with according to the general wish of Irish bee-keepers, and bee-men in other parts of the kingdom will watch with considerable interest its effect on the craft in Ireland; but it shows what can be done by persistent agitation, backed by so powerful a body in the present Parliament as the Nationalists.

We shall take an early opportunity of publishing the full text of the Bill, so that readers may judge of its nature and scope, along with its probable effect on the British bee-industry at large.

LINCS AGRICULTURAL SOCIETY.

SHOW AT SLEAFORD.

The annual show of the above society was held at Sleaford on July 16 and 17, the honey department being, as usual, under the management of the Lincs B.K.A. Unfortunately the weather was very unfavourable, heavy rain on the first day transforming the show-ground into a perfect quagmire. The exhibits were both

numerous and good, the extracted honey making as fine a display for quality as could be seen at any show. Mr. W. Herrod examined three candidates for the third-class expert's certificate of the B.B.K.A. He also had charge of the bee-tent, but his lectures were quite spoiled by the heavy rain. Mr. A. G. Pugh and Dr. Percy Sharp acted as judges, and made the following awards:—

OPEN CLASSES.

Twelve 1-lb. Sections.—1st, A. W. Weatherhogg, Willoughton; 2nd, Miss M. Wilson, Great Canfield, Essex; 3rd, Miss Ada Morley, Temple Brun, Lincs.

Twelve 1-lb. Jars Extracted Honey.—1st, R. Morgan, Cowbridge; 2nd, A. W. Weatherhogg; 3rd, W. J. Cook, Benbrook, Lincs; 4th, G. S. Leigh, Broughton, Hants; v.h.c., T. Blake, Broughton; h.c., W. Patchett, Caistor, Lincs.

MEMBERS' CLASSES.

Honey Trophy.—1st, W. Patchett.

Twelve 1-lb. Sections.—1st, A. W. Weatherhogg; 2nd, W. Patchett; 3rd, Miss Ada Morley; 4th, J. Household, Huttoft; v.h.c., Mrs. G. T. Pilkington, Branswell.

Twelve 1-lb. Jars Light Extracted Honey.—1st, A. W. Weatherhogg; 2nd, Mrs. G. T. Pilkington; 3rd, W. Patchett; 4th, W. J. Cook; v.h.c., Miss Ada Morley, and R. Godson, Tothill.

Twelve 1-lb. Jars Extracted Honey (other than light).—2nd, F. W. Frusher, Crowland; 3rd, Mrs. W. Porter, Long Sutton. (No first awarded.)

NOVICES ONLY.

Twelve 1-lb. Jars Extracted Honey.—1st, H. F. G. Chambers, Sleaford; 2nd, G. Taylor, Sleaford; 3rd, H. Hill, Carlton-le-Moorland; v.h.c., G. Brooks, Sleaford.

Twelve 1-lb. Jars Granulated Honey.—1st, T. W. Swabey, Bracebridge Heath; 2nd, F. W. Frusher; 3rd, Mrs. G. T. Pilkington.

COTTAGERS ONLY.

1st (the late Baroness Burdett-Coutts's hive), H. F. G. Chambers; 2nd, G. Taylor; h.c., F. Harris, Sibsey, W. Standen, Branswell, and J. Household.

Beeswax.—1st, W. Patchett; 2nd, Miss Ada Morley; 3rd, F. W. Frusher.

Observatory-hive.—1st, T. W. Swabey; 2nd, Jas. Lee and Son, Ltd., London.

APPLIANCES.

Collection of Hives and Appliances.—1st, Jas. Lee and Son, Ltd., London; 2nd, E. H. Taylor, Welwyn; 3rd, W. P. Meadows, Syston.

Complete Frame-hive for General Use.—1st, Jas. Lee and Son; 2nd, W. P. Meadows; 3rd, W. R. Garner, Dyke, Bourne.

Complete Frame-hive (cost not to exceed 12s. 6d.).—1st, W. P. Meadows; 2nd, W. R. Garner; 3rd, E. H. Taylor.

New Appliance connected with Bee-keeping.—1st, W. P. Meadows (wax-extractor); 2nd, W. P. Meadows ("Bull-dog" smoker); v.h.c., Abbott Bros., Southall (honey spoon).—R. GODSON, hon. sec., Tothill, Alford.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

NEATNESS.

[7180.] My heading only partly covers the field. The subject pretty well covers the whole area of apiculture, but a few points only can be dealt with in a single article. Go into a grocery store and note scores of articles tastefully done up and neatly and very attractively labelled. Do not neatness and taste in making up these often cheap and unattractive goods aid very considerably in taking the eye and helping a ready sale? Look at preserved fruits, sweets in infinite variety, countless eatables, and numerous drinkables. Producers of each and all vie with each other in helping the middleman to dispose of their special lines by sparing no expense in putting up their wares in the most attractive and, consequently, appetising form. When all is said and done, we must regretfully acknowledge that bee-keepers are lax in this respect, and they might profitably take a lesson from these caterers for the public taste. When working for extracted honey, use neat, clear, attractive glass jars, earthenware jars, pails, or tins, according to the style of packing or the quantity you are disposing of. Then—a point too frequently ignored—be very particular about the labelling of each packet. On 1-lb. jars these should be small, neat, and attractive; while on tins they should be large and rather showy, making the cans more taking in appearance. This is one good feature of labels, but they also help to advertise our product. The purchaser comes to accept them as a guarantee of quality, and friends may be attracted by them, and induced to become purchasers. They can also be made the medium for imparting to the new owner a knowledge of how he can preserve the sweet from deterioration. Granulation is too fre-

quently viewed as a defect instead of being regarded as a proof of genuineness. How to liquefy the mass can be briefly shown on the label. County association labels are an excellent device, but personal ones tell more favourably for most bee-keepers carrying on a limited trade.

Neat glazing of sections undoubtedly displays the article at its best. With clear glass and an attractive lace-edging comb-honey is admirably shown off, and for those who have the patience, and where the demand in the trade favours it, this plan is advisable. I am of those who think, however, that a fine well-finished section of, say, pure heather-honey needs no ulterior aid to exhibit its luscious attractiveness. Nature unadorned is adorned the most! Have nice white, clean wood, no brace-combs, no thumb-marks, no propolis. This as a matter of course; but many other points go to make up neatness in section-honey, most of them difficult to define. Wrap the completed article in waxed semi-transparent paper, and you have it ready for the purchaser in a clean, handy, and attractive form. Neatness in packing sections for transit counts largely in guaranteeing that they reach the consignee in the best and most appetising condition.

Neatness in preparing for the honey-crop tells emphatically in favour of surplus in its best and most paying condition being secured. Sections should be folded with patient exactness, each should be properly squared, dovetailing should be driven neatly home by gentle pressure rather than by force; the sheet of foundation must be hung square and true, fixed securely in the V cut, and giving room for the inevitable stretching. Racks should be cleared of last season's brace-combs and propolis. All should be perfectly square and free of twist. The dividers must receive care and attention, and be fixed true and straight. Old brace-combs over tops of frames, if left on for winter passages, should be cleared off before racks are placed on hives, as if not they will generate trouble and vexation. Hives should be perfectly levelled to ensure that comb-foundation hangs perpendicularly in sections if the best work is to be counted on from the bees. Neat handling of full sheets of foundation helps to prevent buckling or twisting in combs; neat wiring-in of the foundation in frames secures perfect combs; neat nailing together of frames guards against a future catastrophe when handling or shaking frames; neat handling of combs prevents jarring, with its resulting rousing of the bees' ire; a neat insertion of the combs when returning after examination saves bee-life, and, more frequently than we are aware of, preserves the life of our queen.

Neatness in manipulation is the best guarantee for successful handling of bees. There should be a place for everything, and everything in its proper place—ready at hand for any opening of a hive, for whatever purpose it is undertaken. Every movement should tell, and no useless or unnecessary fuss should occur in the near neighbourhood of an open hive. Jerking movements beget irascibility; gentle, gliding movements tend to obtain and retain peace, comfort, and good temper. "Deal gently with your bees and they will get to know you, like sheep," says an ancient writer, and there is at least an element of truth in the assertion. If they do not get to know their owner personally, they at least get to know his or her gentle ways and deeds; and, in course of time, they acquire, by instinct or reason—no matter which—a trust and confidence in being handled. They seem to realise that there is no *casus belli*, and reciprocate the neatness and gentleness of handling by their gentle actions. This reciprocity on the part of the bees seems to me indeed to savour of reasoning powers. Tit for tat is a too common principle of action in the *genus homo* as well as the *genus apis*. The opposite holds as true; and the truth should help to point my moral.—D. M. M., Banff.

PRICES OF HONEY.

[7181.] Mr. Ernest Walker has earned the gratitude of all British bee-keepers by bringing forward a matter which affects not only bee-keepers, but every honest trader. It is well known that foreign honey can be obtained at from 2d. to 3d. per lb., and there is a large business done in it under its proper name. But when an advertisement appears in the columns of the B.B.J. it is generally understood that the honey mentioned is produced in Great Britain, unless a statement to the contrary is made. Several months ago, having heard numerous complaints, I called the attention of one of the Editors of the B.B.J. to the fact that an advertisement was appearing in its columns offering honey of a certain quality. When delivered, the honey proved to be of a different quality from that advertised. Ample proof of this was given, but the advertisement continues, and is undoubtedly inflicting much injury on British bee-keepers.

It is to be hoped that, now the matter has been publicly ventilated, the B.B.J. will accede to the wishes of its British readers and insist upon the country of origin being stated when honey is advertised for sale at rates below the current

market value of British honey.—WALTER F. REID, Fieldside, Addlestone, Surrey.

[We may be allowed to correct our correspondent with regard to statements made in the above letter, which are, to say the least, misleading, erroneous, and unjust. The facts are as follow: During the spring of 1907 we accepted a contract for an advertisement to appear in our pages on March 7 and onwards, offering "Clover honey, guaranteed pure, of finest quality" at certain prices. No complaint was received for several months from buyers, who were apparently well satisfied. But, as the honey season in England was a complete failure that year, the stock held by our advertisers was, we suppose, got rid of to bee-keepers needing honey for their regular customers; and later on in the season it seems the quality of the honey sold was not equal to sample, and, in consequence, complaints began to reach us. This was the state of things in the autumn of last year, when our correspondent personally called our attention to the complaint of a member of a bee-keepers' association (not a dealer) who had bought honey through an advertisement, which when delivered "proved to be of a different quality" from that advertised. Our informant was very indignant about the matter, being apparently anxious that legal proceedings should be taken against the advertisers; in fact, we were led to understand that such action would be taken by the aggrieved party himself. We expressed our entire satisfaction at the last-named proposal, and offered to do all we could in assisting to secure justice for the complainant; but our correspondent was still not satisfied, and insisted that the B.B.J. should take action, together with, as we suppose, the risk of failure to secure a verdict against the advertisers. And so the matter rested at the end of last year.

When the same advertisement was offered to us in 1908 we refused to accept it unless certain words which were considered to be misleading were omitted; this was agreed to, and up to the present time no single complaint has reached us. On the other hand, we never lose sight of the fact that British bee-keepers look to the B.B.J. to safeguard their interests, and so long as it remains in the hands of its present proprietor and editors they may rest assured that nothing will be done to forfeit the confidence they have so long enjoyed.

Referring to the last paragraph of Mr. Reid's letter, we may say that the contract made with the advertisers in question expired with our last issue, so the matter has now ended.

We wish to emphasise the fact that the "Deposit System" was established for the benefit of buyers and sellers alike (traders included), and this is well known to readers of all classes. It therefore applies directly to the case to which Mr. Reid refers, and as it has worked satisfactorily so far, those who do not make use of it have only themselves to blame if trouble follows.—EDS.]

ENEMIES OF BEES.

[7182.] Sitting near my hives the other day, I noticed a "flycatcher" swooping across the flight of the bees, and going back each time to her nest of young ones with something looking very like a bee in her beak. After watching her carefully for some time, and feeling convinced such was the case, I shot the bird, and on examination found in the gizzard nothing but a mass of bees, two being quite perfect. Not seeing the birds in the list as enemies of bees, I am led to ask, Is my case unusual, or are they known to catch and carry off bees, as observed by myself? I may say these same birds have nested both this and last year in a hole in the house wall, but I have never for a moment thought they did any damage; in fact, I have protected them.

I am also wondering can anything be done to keep flies away from the hives, as they seemed to annoy the bees considerably at night time during the late hot weather?—A NOVICE, Bewdley, July 21.

[The bird referred to is probably the *Muscicapa atricapilla*, Linn., or pied flycatcher. It is found further North than the ordinary shrikes, chiefly beyond the heights on the confines of Staffs and Derbyshire. Early in the morning, before flies are on the wing, the male bird is generally seen perched near the hives singing to his mate on the nest, and though his song has not much compass or variety of note, it is soft and not without sweetness. His wings are well fitted for the leaping flight with which these birds catch their food, whether flies or bees. He loves the latter as a choice morsel, and is often on the look-out for them.—EDS.]

BEES AND BAD SMELLS.

[7183.] I am writing to confirm a fact the general statement of which I have often made in lecturing, namely, that bees have a decided objection to bad smells. This morning, about 9 a.m., I caught a mole in my garden, which had been making havoc among my plants for a week past; upon lifting the trap to look at it I found the creature nipped and dead, and dropped it by the side of the hive where it was caught. After dinner, about 2 p.m., I paid it a visit, and found

bees from the hive visiting it in a state of anger. One had thrust its sting into the mole, and had to revolve quite a dozen times before it could clear itself. Whilst I was watching for a few minutes two, three, and four bees visited it, so I accordingly placed it under ground. Those who know what a bad smell emanates from a mole will conclude with me that it was no other cause which irritated them.—JOHN BROWN, Polyphant, Launceston, July 26.

RIPE QUEEN-CELL WANTED.

[7184.] About a week ago, in putting a large swarm into a hive, the queen was lost. The day previous I had taken out about ten queens and cells from the same colony, and, thinking I should not want them, destroyed all. Would one of your readers who may be cutting-out queen-cells (to avoid casts) be good enough to send me one for the colony to hatch out? I should be very grateful.—T. KNIGHT, The Beeches, Carshalton.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Tested Queen-wasps (page 233). — There have been a good many of these wonderful planners of cities-to-be this year, here in the North as well as in the South. I have no doubt that a trying year or two has to some extent selected for the moment the hardiest qualities, and that a not unfavourable winter has ensured that the large majority of these selected and "tested queens" should survive. After all, what a very little we can do by first-hand warfare to reduce the number of such so-called enemies! But how do they manage to get so persistently into Mr. Woodley's roofs? If I were an appliance-maker I would send friend W. a catalogue!

Open-air Feeding (page 243).—This method has its advantages, but except in special circumstances is not really so scientific as might appear. It is, as Mr. Quayle fairly points out, impossible to adjust the feed to the individual need, and a percentage is inevitably given away to other bees. For autumn help feeders are almost essential, so that they are available for use in spring. For my own part, I am very favourably impressed by the use of bottom-feeders, which can be filled without the disturbance of any hive parts. With a large apiary necessary feeding is a serious undertaking, and the simplest method is the best.

Examination by Post (page 243).—At last we have a glaring instance of the lack of progressiveness on the part of those responsible for the welfare of British bee-keeping. Here is a gentleman willing to undergo a practical test as to his ability to handle bees, and he is debarred from a certificate solely because he is a few thousand miles out of sight! Failing the most desirable solution—viz., a qualified examiner on the spot—what is wanted is, of course, an installation of photo-telegraphy at the B.B.J. offices, where the manipulations should be thrown, magic-lantern fashion, upon a screen on the other side of the street. If the examination were timed to take place whilst it was light in South Africa and still dark in London this might be effectively done! But I fear it would mean some very early rising on the part of the examiner!

Inversion and a Perversion (page 246). —I have been trying to invert a syruptin before putting it upon the plate, after the method detailed by "F., South Ayrshire." I have come to the conclusion that the air must, indeed, have peculiar qualities in his shire, for I have so far only succeeded in spoiling a suit, drowning the cat, filling the kitchen with predatory bees, and being obliged to accept notice from the long-suffering cook, who, up to the present, has borne with patience all other bee-matters, even to wax-rendering! As I am determined to succeed, will friend "F." kindly explain how he manages this, to me, difficult operation? I can effect it if the plate be first placed upon the tin, but not otherhow!

Hawthorn (page 246).—I am very glad to see evidence in favour of the hawthorn. Does this old English tree really yield honey, or does it not? I am promised an authentic sample of the honey by a Lancashire bee-keeper, but I have never yet actually seen the bees at work upon the bloom, and I know others who are even more emphatic that no honey is obtained from it. Who can tell us definitely?

Spores (page 252).—No, I am not, as Mr. Farmer suggests, greatly surprised to hear that quilts have been used again without ill-effects. It is quite plain that Mr. Farmer considers that spores are blowing about in hives of old-standing disease, whereas I am far from convinced that such is the case. If they were, the bees might be able to fan them all out into the life-giving, death-killing sunshine. Wonderful that this cause should exercise favouritism! After all, man or microbe, we have each our effective levels, and our hereditary spheres have fairly narrow confines.

A Novel Apiary (page 265).—There is no doubt that the unfortunate temper of Miss Gertrude Todd's bees is due to the style of hive in which they live. For being imbued, as we know them to be, with the spirit of the hive, it must be

the fact that they live in little villas, which makes them in some sort such little villains!

Bee Shows to Come.

August 12, at Wye (Kent Honey Show).—Five Open Classes: Trophy, cup value £3 3s. Fifteen Classes open to Kent: Two Challenge Cups, value £6 6s., and money prizes. **Entries closed.**

August 12 and 13, in The Park, Taunton.—Somerset B.K.A. Annual Show, in conjunction with that of the Taunton Deane Horticultural Society. Increased Prizes. Sixteen classes, including eight open and two free. Schedules from L. E. Snelgrove, Hon. Sec., Cromla, Locking Road, Weston-super-Mare. **Entries close August 7.**

August 13, at Llangefni.—The County of Anglesey B.K.A. Honey Show. **Entries closed.**

August 14, in Public School, Portwilliam, Wigtownshire.—Honey Show in connection with the Horticultural Society. Classes for Sections and Extracted Honey, open to amateurs and cottagers. Challenge Class (open to all) for 3 1-lb. Jars Extracted Honey, prizes 20s., 12s., 8s., and 4s. Schedules from Secretary, Horticultural Society, Portwilliam, N.B.

August 19, at Lancaster.—Honey Show and Bee Demonstration, &c., in connection with the Lancaster Agricultural Society's Show. **Entries closed.**

August 19 and 20, at Shrewsbury.—Annual Show of the Shropshire Bee-keepers' Association will be held in the Quarry, Shrewsbury, in connection with the Shropshire Horticultural Society's Great Floral Fête. Eight Open Classes for Honey. Free Entry for Single Bottle and Single Section. Schedules from S. Cartwright, Hon. Secretary, Shawbury, Shrewsbury. **Entries close August 7.**

August 20, at Abingdon Park, Northampton.—Honey Show of the Northants B.K.A. Special prizes for open classes, including one for single 1-lb. jar honey. (**Entry free.**) Prizes 20s., 10s., 7s. 6d., and 2s. 6d. Schedules from R. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 16.**

August 22, at Elworth, Sandbach.—In connection with the Elworth Athletic Club and Horticultural Society's Show. Class for Honey, open to the County of Chester. First prize 15s., second 7s. 6d., third 5s., for twelve 1-lb. Jars Extracted Honey; also Bronze Medal given by the Cheshire Bee-keepers' Association. Entry fee 1s. Schedules from A. E. Wright, Hon. Sec., Elworth, Sandbach. **Entries close August 15.**

August 26, at Chester (Cheshire Agricultural Society's Show). — Bee and Honey Department, under management of the C.B.K.A. **Entries closed.**

August 26 and 27, at Solihull, Warwickshire.—Show of Honey, Hives, and Appliances, in connection with the Warwickshire Agricultural Society. Schedules from J. N. Bower, Hon. Sec., Knowle, Warwickshire.

September 3, 4, and 5, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-six Classes (nine open to all). Increased Prizes and Medals. Schedules from F. B. White, Secretary, Marden House, Redhill, Surrey. **Entries close August 22.**

September 5, at Bramhall. — In connection with Bramhall Horticultural Show. Honey Section under management of C.B.K.A. Liberal prize list for Honey, Extracted or Sections, and Wax. Silver and bronze medals for Local Class. Schedules of Mr. J. Sibson, Kitts, Moss Lane, Bramhall, Stockport. **Entries close August 31.**

September 5 to 12, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners' Bakers', and Allied Trades' Sixteenth Annual Exhibition and Market. (See large advertisement on page iv.) **Open to all British Bee-keepers.** Entry fee in each class 1s. Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 9, at Wilmslow, Cheshire.—In connection with Adlington and East Cheshire Agricultural Society. Honey Section under the management of the C.B.K.A. Bronze medal for District Class. Liberal Prizes. Open and District Classes. Schedules of Mr. J. Sibson, Bramhall, Stockport. **Entries close August 31.**

September 12, at Dumfries.—Annual Show of South of Scotland B.K.A. Five Open Classes: 3 Bottles, 20s., 12s., and 6s.; 3 Sections, 15s., 10s., and 5s. (entry 2s.); 1 Bottle, also 1 Section, 5s., 3s., and 2s. (entry free, and exhibits retained unless otherwise agreed upon); Beeswax, 5s., 3s., and 2s. (entry 6d.). Thirteen classes for members. Schedules from Q. Aird, Hardgate School House, Dalbeattie, N.B. **Entries close September 5.**

September 14, at Conway, N. Wales.—Annual Honey Show, in connection with the Conway Honey Fair. Open and Local Classes. Schedules from J. Hughes, Town Hall, Conway. **Entries close September 7.**

September 19 to 26, at the Agricultural Hall, London.—Honey Show in connection with the Sixteenth Annual Exhibition and Market of the Grocery and Kindred Trades. (See large advertisement on page iv.) Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.** Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 23, at Altrincham.—Honey Show in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. Classes for Trophy of Honey, for Best Hive, Observatory Hive with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester, for Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low entrance fees. Schedules from Mr. J. Herbert Hall, 2, Dunham Road, Altrincham. **Entries close September 5.**

Queries and Replies.

[3756.] *Troubles in Re-queening Stocks.* — I should be much obliged if you would give me any explanation of and advice on the following facts:—On June 23 I found that the queen was missing (I don't know the reason) in one of my hives, and several queen-cells were found sealed over. I placed a frame containing several of these cells in the queenless portion of an artificial swarm I made, and when examined a week later (June 30) the queen-cells in both hives were empty. On July 5 I inserted a frame of brood in all stages in each hive, and no queen-cells were formed in either, nor have any eggs been laid since. Accordingly, on July 17 I united the two lots and placed a queen I had obtained (in an introducing cage) on the top of the frames, allowing the bees to get to the candy and release the alien queen forty-eight hours later. On the following evening I found the enclosed dead bee, which I take to be a queen—although it looks much smaller than a live one—in front of the hive. I have not yet examined the hive, not feeling quite certain on this point, and thought it better not to disturb them. I shall, therefore, be much obliged if you can tell me:—1. Is it possible for a queen from a cell sealed over on June 23 not to have started laying by July 17, and still be in good condition? The weather has been very fine up till July 4, and wet since, and there were drones in all my three hives. Of course, I could never find the queen in either hive during this period. 2. If the bees are queenless will they rear a queen on being given a comb of young brood? 3. Does the fact of one queen having been refused diminish the chance of another being accepted, if I try to introduce another? I must apologise for the length of this letter, but thought it better to give full details. Thanking you in anticipation of a reply in the B.B.J., I send name, &c., for reference, and sign—MEDICO, Nottingham, July 22.

REPLY.—1. Without entering into the possibilities of the case, it would appear from the details given

that there was already a queen in the Live when the alien queen was introduced, and one or the other has been destroyed. We therefore advise you to examine the hive at once, in order to ascertain if the queen released from the cage on July 19 is there, and is laying. If this is so all will be right. We say this because the dead queen sent has the appearance of a virgin; but has evidently been viciously "balled," and the dead insect is too dry and hard for post-mortem examination. 2. After what has happened to both the stocks in question, there will not be much chance of the bees raising a queen from brood or eggs now given. 3. After killing one alien queen, bees have a tendency to do the same again, and so the risk is increased.

[3757.] *Transferring Bees.*—I am anxious to take up bee-keeping as a business, and would like some instructions on the subject, in order to enable me to obtain the certificate of the B.B.K.A., if possible. I therefore ask :—1. If you can tell me of a good bee-keeper who would take a pupil? 2. Meanwhile, what should I do in the following case? On June 29 I bought a skep containing bees, brood, and honey—the last said to be about 20 lb. This I put into a frame-hive, according to instructions for transferring in the "Guide Book" (page 149), hoping to remove the skep when the bees had gone down. After three weeks, however, they are still at work in their skep, and have not started to work on the foundation for them in the frame-hive below. Should I leave them as they are, or take off the skep, drive the bees from it, and run them in at the front?—(Miss) M. McL., Kennington, Oxon.

Reply.—1. It is considered better and more economical to take a short course of lessons in an up-to-date apiary, when the main object is to secure the B.B.K.A. expert's certificate, than to attend a local apiary for instruction. 2. The bees in skep you purchased were evidently not in proper condition for transferring themselves at end of June, and the queen did not require room for egg-laying at the time. The date given in the "Guide Book" for the operation is April, because prospering skeps are at that time preparing to extend their brood-nest or swarm. On the other hand, a skep that has not been strong enough to swarm before June 29 is not likely to take possession of a frame-hive at all that season. This is evidently what happened in your case, and explains the failure. This being so, it is useless to drive the bees from skep and run them in the frame-hive as proposed, for they would only re-enter the skep and remain there. We should winter the bees in the skep and operate next year.

[3758.] *Ventilating Hive.*—1. How can I give ventilation to my hives, which are Howard's "W.B.C.'s," with double walls, but no floorboard ventilators? Some have on *two* and some *three* crates of sections, but as these are all packed round tight with warm stuff and torn newspaper, as recommended in bee-papers and guide-books, I cannot see how I can wedge up the *inside* body-box at two or four corners. It is not even easy, if, indeed, possible, to wedge up the outer case with porch attached, when hives have so many lifts upon them. 2. What would account for a swarm breaking up into a dozen or more small clusters, landing on different hive-tops, legs, and stands? I picked up queen from ground, and put her into a new hive *on the old stand*, hoping all bees of swarm and flying bees would join her. I stood by till 8 p.m., when apiary began to quieten down. No swarm came off next day, but robbing *without* fights was in full swing. An examination proved queen had disappeared, and but for hybrid robbers the hive (which had drawn-out combs and plenty of last year's honey) was empty of bees. The swarming bees landed also in masses on the alighting-boards of two or three other hives, and caused a day of wild commotion. 3. Could the swarming bees have forced an entrance and joined the other stocks, or what became of *them*, and of the foraging and returning bees? Except from eight at night till seven next morning I was never absent over half an hour from the place. The ground is all clean red earth, nicely raked, and I can find no dead queen anywhere after most diligent search.—Chas. Dunlop, Brodrick, N.B., July 14.

Reply.—1. Remove the paper round the racks of sections, and leave on the warm coverings, which should be quite sufficient now. Take off the outer casing, and wedge up the hive to admit of sufficient ventilation. Small wedges can also be placed between the racks if needed. Replace the lower part of outer case, and raise it above floor-board, to allow a free circulation of air, and place the separate cases, or lifts, alternately, so that there is an outlet between them, as shown on page 64 of "Guide Book." In this way you can give as much ventilation as you desire. 2. As you say the hive only contained honey and no brood, it is possible that the bees deserted it, finding it hopeless to try to raise a queen to replace the one worn out, or which had, through some cause, failed to lay eggs. The fact of your picking up the queen from the ground shows that she was not able to keep with the bees. 3. No doubt the swarming bees have distributed themselves amongst the other hives, and the foraging bees, finding their home deserted, would do so likewise, and, being well filled with honey, would be readily accepted by the other colonies.

[3759.] *Bees Transferring Themselves.*—I put ten brood-frames below skep last year (1907), but the bees did not transfer themselves as expected. I have been examining them to-day, and I find a lot of brood on four or five frames; but I did not see the queen, so I drove the bees from skep, and in doing so still failed to see her. I therefore ask: 1. Is it certain that the queen will be below? I ask because of having put queen-excluder on between the skep and the frames below. 2. When will the skep be ready for removal? 3. How long will it take the brood to hatch out? I have taken the B.B.J. ever since I started bee-keeping four years ago. I also have the "Guide Book." Reply will oblige.—G. Bland, Chesterfield, July 27.

Reply.—1. It is almost certain that the queen will be on the combs in lower hive where the brood is. 2. It depends on the amount of brood there is in the skep. There may be very little, and the combs may contain honey only. You should turn up the skep and judge by examining the combs. 3. Twenty-one days from the time the eggs were laid.

[3760.] *Bees and Neighbours.*—Having just lately installed a swarm of bees and hive, I find now that the trouble is not so much with the bees as with the neighbours. Can you tell me whether there is any law or by-law that forbids bee-keeping anywhere but in the country?—H. M., Herne Hill, S.E.

Reply.—The law forbids the keeping of bees so close to dwelling-houses as to be a nuisance and a danger to neighbours. There is no prohibition unless the bees give real cause of complaint. Before we could offer an opinion in your case we should have full particulars to judge from; but very much depends upon the bee-keeper himself.

Notices to Correspondents.

*** *We regret having been compelled to hold over several letters and queries of interest, and Report of Glam. B.K.A. Show at Cardiff till next week in order to complete the Congress Report in this issue.*

T. G. R. (Loose, Maidstone).—*Deposing Queens.*—The bee-keeper should use his intelligence when

deciding on the time for deposing queens on account of age. Broadly speaking, a queen is supposed to be on the down grade after heading a stock for, say, eighteen months; but if she shows no falling off in her prolificness after that time it would be foolish to destroy her. Some authorities (with good reason, too) say that many queens do well in their third year. Our advice is to judge by results, while giving the usual time as not over the second year.

"MALLING" (Maidstone).—*Bees not Working in Sections.*—The only reason we can give for your bees not working in sections "when everyone else in the neighbourhood is getting honey in plenty" is that the stock is not strong, either from age of queen or from disease. Instead of "removing the unfinished sections and feeding the bees" we should ascertain by some means what is wrong with the stock.

G. D. W. D. (Gourock, N.B.).—*Peculiar Effects of a Bee-sting.*—It is well known that in some cases (fortunately very rare) the consequences of a bee-sting are not only distressing, but at times painful; so much so that we have advised persons so constituted that the effects of a sting are similar to your own not to keep bees at all. Seeing, however, that so very few are liable to such troubles from keeping bees, no good purpose would be served by creating unnecessary alarm, to say nothing of adding to it, by asking for similar experiences on the part of readers. With regard to yourself, we may say there is no remedy for the mischief, but if the bees in question are so "very savage" as to cause you to get "plenty of stinging," as stated, it might be advantageous to see if your method of handling the bees is not at fault. There is no reason why a bee-keeper should get plenty of stinging because the bees are "savage." We have not seldom had the same complaint, and have personally proved that the bees were perfectly amenable to judicious and proper handling, without anyone being stung. Therefore, without troubling to re-queen the hives with bees of a milder strain, we should, if possible, get advice from some experienced bee-man, who could watch you manipulating the hives, and judge whether or not your handling of the bees is right or wrong.

Suspected Combs.

J. KEYTE (Birmingham).—The brood in comb shows signs of foul brood in the incipient stage, but why the larvæ should have perished from cold it is difficult to say from the few details given. We fear you have been too free in giving surplus-room for so variable a season as this. Only a very strong stock should have two stories of standard frames in addition to the sections, which may account for such compact masses of brood being left uncovered by bees, and perishing from cold in consequence. You did right under the circumstances to remove the eight or nine combs of dead brood and put the bees on a single box of standard combs.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

HONEY, Finest Light, new, in 28-lb. tins, 7d. lb.; samples, 2d.—WAIN, Thorpe Bank, Wainfleet. j 25

ITALIAN QUEENS, direct from Italy.—E. PENNA, Bologna, Italy, from July to October, one Queen, 3s. See advertisement in "B. B. J.," July 30.

STRONG HEALTHY 10-FRAME STOCKS, headed with this season's Queens, 42s.; Fertile Queens, 5s. 9d. each; also a few Swarms and Turns of Bees to spare.—POSTMASTER, Breachwood Green. j 23

Special Prepaid Advertisements.—*Continued.*

BEE-KEEPING MADE EASY.—Profit and pleasure; a new Hive, by Royal Letters patent, No. 16,631, '07. The problem of Swarm-catching conclusively solved, &c., &c.—For particulars and drawings enclose penny stamp to D. DAVIES, Abergwili, Carmarthen. j 27

WANTED, Simmins' single "Conqueror" Hive, with Brood Chamber, &c., cheap.—ADAMS, 35, Prentice-road, Eastbourne. j 18

FOR SALE, several dozen Sections, glazed or otherwise; also some dozens of 1-lb. pots. What offers?—C. CURLING, 36, Bolton-road, Grove Park, Chiswick. j 29

FOR SALE, 6 young Ferrets, white, good working strain, 2s. 6d. each.—STEVENS, Churchill, Oxfordshire. j 19

FOR SALE, Trophy, comprising stand, plate-glass rounded edges, with ornaments and pillars, including case for packing, £4 the lot. Photo sent.—BARLOW, Bee-keeper, Stoke-on-Trent. j 28

1 CWT. First-class Honey, 54s.; sample 2 stamps. —CRICK, Firwood Cottages, Halstead, Essex. j 24

HEALTHY DRIVEN BEES, with Queen, 5s. per lot, boxes returnable; spare Queens, 2s. 6d. each.—MORETON, Bee Expert, Hallow, Worcester. j 26

FOR SALE, 500 new well-filled Light Sections. What offers?—J. MISSON, Stetchworth, Newmarket, Cambs. j 21

GOOD CLEAN ½-CWT. HONEY EXTRACTOR, reversible action, will take all standard Frames two at once, cheap, £1.—H., 5, Meadow-terrace, Treforest, near Pontypridd, Glam. j 22

HEALTHY DRIVEN BEES, commencing August 1, 4s. per lot, with Queen Boxes, to be returned. Orders rotation. Cash with order.—T. PULLEN, Ramsbury, Hungerford. h 84

HEALTHY DRIVEN BEES WANTED, for sending to moors, first and second week in August, in 4, 6, or 8 lb. lots. Will give 1s. per lb., provide Travelling Boxes, and pay carriage. Cash by return post after receipt of Bees.—J. BALMBRA, East Parade, Alnwick.

GLAZED SECTIONS WANTED, any quantity. State price, must be light and new. Honey and Sections also received for Sale on Commission. —THE HONIELADE CO., 23, Moorfields, E.C. j 20

TO LET, 5-roomed Cottage, large Garden, Orchard, suitable for Bees and Poultry. Owner will sell 16 Stocks of Bees, Fowls, Bicycle-shed, Fowlhouses, Wire-fencing.—"Roseben," Norton-by-Baldock, Herts. h 62

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PROLIFIC YOUNG QUEENS, with Introducing Cage, 3s.—BR. COLUMBAN, Buckfast Abbey, Devon. j 14

GARDENER, YOUNG, seeks employment amongst outside fruit, vegetables, and bees. —"BOOTS," c/o "Bee Journal." j 2

FINEST SCOTCH CLOVER HONEY, £3 cwt.; samples 3d.—T. RULE, Summervale Apiary, Annan, Dumfriesshire. j 1

HANDY MAN, single, wants a situation to assist gardener, understands Bees.—"GARDENER," c/o "Bee Journal." j 6

SECTIONS AND EXTRACTED HONEY WANTED.—State price to T. SMITH AND CO., Cambridge-street, Hyde Park, W. j 5

FOR SALE, 150 lb. White Clover Honey, £3 cwt.; samples 3d.—Apply, H. COLLIER, Nayland, Colchester. j 13

Special Prepaid Advertisements.—*Continued.*

HEALTHY DRIVEN BEES, good lots, Young Queens, delivery August. 5s. per lot, boxes free.—H. KEMP, Frome, Somerset. j 4

"THE PREPARATION OF HONEY AND WAX FOR THE SHOW BENCH," post free 7d.—JOSEPH TINSLEY, Chebsey, near Stafford. h 24

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NEW HONEY BOUGHT IN ANY QUANTITY for prompt cash; packages sent for it if desired. Best price quoted on receipt of sample. State quantity.—SPRING AND CO., LTD., Brigg, Lincs. h 32

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British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

REGISTERED FOR TRANSMISSION AS A NEWSPAPER.] [ENTERED AT STATIONERS' HALL.

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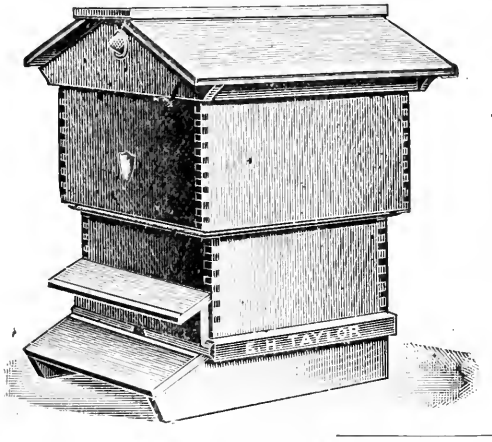

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Edited by T. W. COWAN, F.L.S., &c., and W. BROUGHTON CARR.

OFFICE: 8, Henrietta-street, Covent Garden, London, W.C.

Correspondence: Whom to Address.—All matters relating to the Literary Department, Associations, Shows, &c., should be addressed "Editors, *British Bee Journal*," and all business communications and matters relating to subscriptions and advertisements to be addressed to the "Manager," *B.B.J.* Office.

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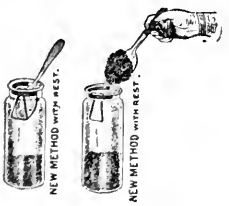

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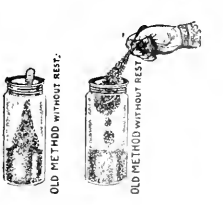

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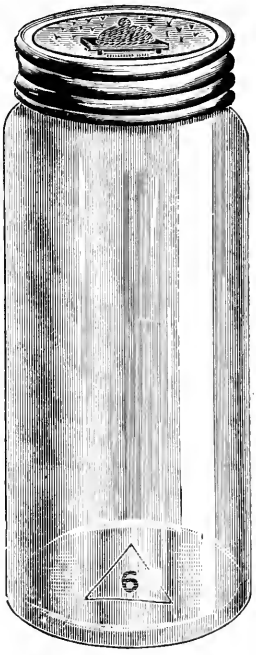

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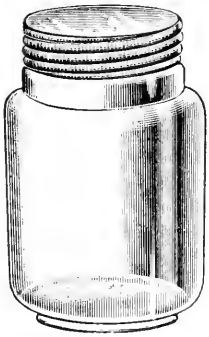

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SPECIAL NOTICE.

In order to induce Bee-keepers to compete for the liberal prizes offered, the entry fee has been fixed at One Shilling in each class.

Editorial, Notices, &c.

REVIEWS.

The French Garden: A Diary and Manual of Intensive Cultivation. By C. D. McKay, F.R.H.S. (London: *Daily Mail*. Price 6d.)—It is well known that the French are experts at intensive cultivation, and they send us large quantities of early vegetables at times when we are not able to get British produce. Applied in England, the system has only been in use for three years, but some have already shown that it can be made profitable in this country. The subject was ventilated in the *Daily Mail* in the spring of this year, and many have turned their attention to the possibilities of intensive cultivation, although the first outlay is considerable, bell-glasses and frames being required. Cottagers, however, can begin with a frame or two and some bell-glasses, and add to them as profits come in. That such gardens are possible in this country has been shown by Mr. Harvey, who has a plot which is equipped with 2,000 lights and 4,000 bell-glasses, and which has produced a gross revenue of over £600 an acre. As there is no handbook of the French system in England, this little book is intended to fill the gap, and will be found to contain secrets long carefully protected by the market gardeners of Paris. The French method will certainly be one of those to which the better educated, with small capital, may turn to make a comfortable living.

Chemical Analysis and Composition of American Honeys. By C. A. Browne, Chief of Sugar Laboratory, Department of Agriculture, Washington, D.C., U.S.A. —This is Bulletin No. 110 of the Bureau of Chemistry, and contains the results of investigations made in the sugar and microchemical laboratories of the department to determine the general composition of American honeys, and to investigate and improve if possible the official methods of honey analysis. The treatment of the subject depends upon a proper understanding of the term "honey." According to the committee on food standards of the American Association of Agricultural Chemists, "honey is the nectar and saccharine exudations of plants, gathered, modified, and stored in the combs by honey-bees."

The bulletin is intended for the analytical chemist rather than the general beekeeper—who will probably find it too technical—and treats of the sources of honey and composition of floral nectars, and describes Dr. de Planta's analysis of nectars from various flowers. The analysis of honey-dew is also given. Various methods of laboratory practice are mentioned, including polarisation, and the results of analysis are presented in tabulated form. As regards the influence of environment upon the composition of honey, it is shown that the ripeness or concentration of honey by the bees depends upon the amount of moisture in the atmosphere, it being much more concentrated in a dry climate than in a moist one.

There is also reference to Hawaian honey, it being stated that Hawaii last year produced 600 tons of honey, of which not more than 200 tons could be classed as floral honey. The remaining 400 tons were either a distinctly honey-dew honey, or a blend of honey-dew honey and floral honey, with decided honey-dew characteristics. There is a coloured illustration of the different blends of such honeys. The bulletin further treats of the adulteration of honey and the detection of adulterants used. The results of the examinations cannot be published as yet, owing to certain requirements of the Food and Drug Act of June 30, 1906, but it is stated that of the large number of samples analysed 20 per cent. were found to contain commercial glucose varying in amount from small quantities to as much as 80 per cent.; 12 per cent. of the samples exceeded 8 per cent. sucrose, and 8 per cent. of the samples gave reactions for artificial invert sugar. To the sixty-nine pages of this bulletin are added eighteen on *A Microscopical Study of Honey Pollen*, by W. J. Young, who describes the various substances found suspended in honey, and more particularly pollen. There are five plates of photo-micrographs of pollen, illustrating that of thirty-two different species, which should prove of service to those who wish to make an analysis of honey and determine its source, as the law in America now requires honey to be labelled exactly according to its origin.

Beans. By R. Lewis Castle, F.R.H.S. (London: Agricultural and Horticultural Association. Price 1d.)—The author of this popular garden book has taken pains to explain in great detail every circumstance it is desirable to bear in mind in bean culture. The book is fully illustrated. It is No. 17 of the One & All cheap practical series edited by Edward Owen Greening, F.R.H.S.

The Animal World. Edited by E. G. Fairholme. (Issued by the Society for the Prevention of Cruelty to Animals, 105, Jermyn Street. 2d. monthly.)—The July number of this capital paper, besides containing articles about various animals and instructive dog stories, has an article entitled "The Harvest of Honey," by Oliver G. Pike, which illustrates the fertilisation of clover by bees in four illustrations, and there are seven showing the

growth of a section of honey. It is pleasantly written, but the author, in describing the storing of honey, makes a mistake in stating that "a minute drop of formic acid from the bee's sting is sometimes added before sealing the cell over, which acts as a preservative." Beekeepers and readers of the B.B.J. know that this theory has long ago been proved to be not true. There are also a number of animal anecdotes and reports of work done by the Society. The magazine is well illustrated, and is well adapted to create an interest in animals.

GLAMORGAN B.K.A.

ANNUAL SHOW AT CARDIFF.

The annual show of the Glamorgan B.K.A. was held in the Sophia Gardens, Cardiff, in connection with the County Horticultural Society, on July 22 and 23, in ideal weather. After a splendid season nearly a record number of entries was made, and it is not too much to say that the show-bench was laden with some of the finest specimens of bee-produce ever seen in the history of the association. A greater number of our members, with a minimum of trouble and expense, might easily exhibit, at least, the best of their sections, with every prospect of carrying away prizes. We happen to know that excellent products are to be found in very many apiaries in the county.

Mr. S. Jordan, Bristol, acted as judge of the bee-department, and made the following awards:—

MEMBERS' CLASSES.

Twelve 1-lb. Sections.—1st, D. George, Merthyr-mawr; 2nd, W. H. Williams, Llangan; 3rd, C. Hood, Clemenstone, Cowbridge; r., R. Morgan, Cowbridge.

Six 1-lb. Sections.—1st, D. George; 2nd, C. Hood; v.h.c., W. H. Williams; h.c., R. Morgan.

Three Shallow-frames of Comb-honey.—1st, R. Morgan; 2nd, J. Boyes, Cardiff; 3rd, Sam Lewis, Bridgend.

Twelve 1-lb. Jars Extracted Honey (Light).—1st, W. T. Gunter, Cowbridge; 2nd, J. Boyes; 3rd, Edward Church, Cardiff; r., D. George.

Six 1-lb. Jars Extracted Honey (Light).—1st, J. Boyes; 2nd, R. Morgan; 3rd (recommended), D. George; v.h.c., W. T. Gunter; h.c., T. Davies, Kenfig Hill; and c., John Rees, Lisvane.

Twelve 1-lb. Jars Extracted Honey (Medium or Dark).—1st, J. B. Kitt, Wenvoe; 2nd, W. T. Gunter; 3rd, R. J. Edwards, Llanedarne.

Six 1-lb. Jars Extracted Honey (Medium or Dark).—1st, J. B. Kitt; 2nd, R. J. Edwards.

Beeswax (not less than 1 lb., in retail form).—1st, T. George, Merthyr-mawr; 2nd, D. George.

Articles of Food (recipe attached).—1st, W. T. Gunter; 2nd, R. Morgan.

Exhibit of a Practical and Scientific Nature.—D. Davies, Abergwili, Carmarthen (a very ingenious hive).

PRIZES GIVEN BY J. HIBBERT AND SONS, CARDIFF.

Twelve 1-lb. Jars Extracted Honey (Light).—1st, R. Morgan; 2nd, Sidney Wakeford, Dinas Powis; 3rd, J. Boyes.

Twelve 1-lb. Jars Extracted Honey (Medium or Dark).—1st, R. J. Edwards; 2nd, D. George.

NOVICES' CLASSES.

Six 1-lb. Sections.—1st, T. George; 2nd, T. Davies.

Six 1-lb. Jars Extracted Honey.—1st, E. Humphrey, St. Mary Church, Cowbridge; 2nd, E. Church; v.h.c., T. George; h.c., R. James, Penarth.

OPEN CLASSES.

Twelve 1-lb. Sections.—1st, D. George; 2nd, C. W. Dyer, Compton-Newbury; 3rd, W. Gage, Dulverton.

Twelve 1-lb. Jars Extracted Honey (Light).—1st, R. Morgan; 2nd, D. George; 3rd, C. H. Bocock, Newmarket; v.h.c., W. T. Gunter; h.c., S. G. S. Leigh, Broughton, Hants; c., J. Boyes.

Beeswax (not less than 2 lb., in retail form).—1st, D. George; 2nd, R. Morgan; 3rd, S. Wakeford.

Collection of Appliances.—John Hibbert and Sons, Cardiff.

Observatory-hive, with Queen and Bees.—1st, S. Wakeford; 2nd, T. W. Roberts, Penarth.

Mr. Jordan afterwards conducted an examination of eight candidates for third-class experts' certificates of the B.B.K.A.

Lectures in the bee-tent were given at intervals by the Rev. H. Morgan, B.A.—WILLIAM RICHARDS, Hon. Sec., Glamorgan B.K.A., Gabalfa, Cardiff.

NOTTS BEE-KEEPERS' ASSOCIATION.

The annual county show of the above association was held in conjunction with the Kingston Horticultural and Agricultural Society in the beautiful park of Lord Belper at Kingston, near Derby, on Bank Holiday, August 3, under ideal weather conditions. The exhibits were of first-class quality, and entries numerous compared with other years. Dr. Percy Sharp, Brant Broughton, assisted by Mr. W. Darrington, judged the exhibits, and their awards were as follow:—

Collection of Bee-appliances.—1st, Thos. W. Harrison and Sons, Nottingham. (Only one exhibit.)

Honey Trophy.—1st, U. Wood, Arnold. (Only one exhibit staged.)

Twelve 1-*lb. Jars Light Extracted Honey.*—1st, A. G. Pugh, Beeston; 2nd, W. L. Betts, Marsfield-Woodhouse; 3rd, G. Marshall, Norwell; h.c., G. Hopkinson, Newark.

Twelve 1-*lb. Jars Dark Extracted Honey.*—1st, G. Marshall; 2nd, G. E. Puttergill, Beeston.

Twelve 1-*lb. Sections.*—1st, W. Lee, Southwell; 2nd, G. E. Puttergill; 3rd, W. L. Betts; h.c., W. H. Stoppard, Mapperley.

Twelve 1-*lb. Jars Granulated Honey.*—1st, A. G. Pugh; 2nd, G. E. Puttergill; 3rd, M. E. Varty, Pleasley.

Single Shallow-frame of Comb-honey.—1st, G. Marshall; 2nd, W. H. Stoppard; 3rd, W. L. Betts.

Twelve 1-*lb. Jars Extracted Honey* (novices only).—1st, J. Wood, Nettleworth; 2nd, Thos. N. Harrison, Carrington; 3rd, W. H. Stoppard.

Honey Vinegar.—1st, G. E. Puttergill.

Observatory-hive. — 1st, Dr. Elliot, Southwell; 2nd, G. Marshall; 3rd, E. G. Ive, Boughton; 4th, C. Fincham, Notts.

Beeswax.—1st, G. Marshall; 2nd, A. H. Hill, Balderton; 3rd, G. E. Puttergill.

Three 1-*lb. Jars Extracted Honey and Three* 1-*lb. Sections* (amateurs only).—1st, C. Wood.

An examination of four candidates for the third-class certificate of the B.B.K.A. also took place during the show.—GEO. HAYES, Hon. Sec.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

ODDS AND ENDS ABOUT BEES, ETC.

[7185.] Some things appear incredible when put into print, especially statements about bees. The incident of a lady's discovery of a live bee in a hat and veil after several months' isolation appeared in your journal at a time when I made the discovery of a bee still alive after five months' separation from the rest of the hive. This particular bee was imprisoned between the chaff cushion and the top quilt (next the frame) on the outside of a feeder's sole. I was very careful to note if there was any possible chance of its having escaped under the edge of the sole; but no, and it was close in to the side of the wooden sole just over the cluster, where it had the benefit of the heat during these solitary months. This accounted for its being still alive, and, as Pickwick might have observed, "It was a singular instance of the tenacity of life in *bees* under trying circumstances." My experience during spring is similar to that of many of your contributors, with this difference. The winter was mild and induced much flying of the bees, with the fatal result of a great dearth of population when most needed. A larger proportion than usual of weak stocks perished, queens disappeared, and early re-queening affected the prosperity of others. The bright sunshine and genial heat towards the end of June and beginning of July set most hives upon their feet, but July as a whole afforded no opportunity for storing, and unless the weather changes the best of stocks will not yield 20 lb. apiece. Swarming was very erratic in our district this season. I was called to hive a swarm for a neighbour, and found that the parent hive had only embryo queen-cells, with eggs unhatched in them. In another swarmed hive the larvæ were only about four days old.

If my word may be taken, I can assure the writer of "Cappings of Comb" that I have seen the bees busily searching the hawthorn blossom when the weather was favourable, and during one year I had several supers filled chiefly with hawthorn honey. The colour is not a pretty one, but the flavour is unmistakable. The honey sets, or granulates, with rather a coarse grain. If I am fortunate enough to procure a quantity of this during next year I shall be pleased to send a sample to our friend "L. S. C." While on the subject of flowers, I may say that I have observed bees on the snowdrop, the honeysuckle, chickweed, groundsel, shepherd's purse, and on one occasion I noted that the inflorescence of a certain grass resembling rye grass was carefully gone over by a *single bee*. The distance to the nectaries of the honeysuckle was too great for the hive-bee to reach, but the stamens paid toll in pollen. Those visiting the honeysuckle did so in the early morning, and as I had a plant with several hundred blooms I had ample opportunity during some ten days of noting the work of various insects visiting it. I have had many opportunities of observing the flight of bees this season, but I have come to no conclusion except that, under certain circumstances, its rapidity is greatly in excess of ten miles an hour.

Wax-rendering (7179, page 306).—A correspondent asks for information on this point, which I gladly give. I have a wire sieve of very close mesh fitted as a steamer for fixing on a goblet 8 in. in diameter, but I do not use it as a steamer now, as I find that too tedious a process. When I have a number of combs for melting I put them into a bath full of water for any time between twelve and twenty-

four hours. Then I fix a fine spray-thimble on to the cold-water supply-pipe, and wash out all the pollen. This process of soaking and washing out the pollen also removes vast numbers of cocoons. This year I cleaned about sixty combs, but, instead of melting them, they are all in use, some for swarms and others for driven bees, and I am sure that if I had those 150 combs very few would get melted at all. When the combs are to be rendered, cut them out of the frame after the pollen has been washed out, and cut or break them into pieces into a large goblet or pot of boiling water. Stir about, but do not boil; then pour into the sieve over an enamelled pail, and turn the sieve at a slight angle in the hands, and give two or three shakes until the refuse shows a tendency to form into a ball, when it is turned out into a basin for further treatment. Seeing that the pollen was all previously removed, this refuse from a good potful is not very formidable. Now just continue to melt and sift until all the combs are done. The refuse from half a dozen boilings is treated to a second boiling and sifting, and put finally aside. If I had 150 combs to melt, I should remove the pollen and cut up into a washing copper of boiling water; then skim off the wax, and sift it as I do with smaller lots, but I do not allow large quantities to gather on my hands. The different cakes of wax are finally re-melted into one large cake. I hope the foregoing notes may be of use to your inquirer.—D. V., Dunaskin, August 8.

BIRDS AND BEES.

[7186.] Referring to 7176, B.B.J., July 30, it would be delightful to recommend *Apis mellifica* to the often unfriendly gardener as a fruit-preserver, but I have grave doubt that Mr. Newth's gratitude has been misplaced. Most of the hives I now keep are within easy view of my library windows, and I often see grub and worm eating birds searching the grass in front of them. This afternoon I noticed a fat thrush close to a hive-entrance from which bees were constantly darting. Robins and flycatchers sometimes sit upon the protecting iron railing, which serves, too, as a perch for various tits while leisurely dissecting such worn-out stragglers as they can pick up round the apiary. Conscience, indeed, makes those small marauders very wary, yet while they cannot abide the bee-master, his bees are always welcome. H. J. O. Walker (Lieut.-Colonel), Budleigh Salterton, August 6.

[7187.] Referring to Mr. Newth's letter on the above (7176, page 306), "Conscience does not make cowards" of the thrushes here. Since my bees commenced to turn out the drones, a pair of thrushes, who had a nest close by, almost live on the bed in front of my hives. They seem to have an acquired taste for a good fat drone, and only run under the gooseberry bushes when I appear on the scene. They would doubtless like the berries also, but these are protected by a lot of thread.—F. J. C., Retford.

[7188.] With reference to the subject of "Birds and Bees," mentioned in B.B.J. of July 30 (7176, page 306), I have noticed that, in this thinly-populated district and in my own garden, birds seem to congregate more where bees are situated. Yet fruit is left practically untouched by the birds. I have a few cherry trees, the only trees bearing that fruit grown in this locality, and those nearest the apiary bear most fruit. This spring I had occasion to place two hives where my raspberries grow, and notice no difference in the crop of fruit from that of previous seasons. My apiary is situated in a sheltered position, as this locality is very bleak, it being 50 ft. above the surrounding country, is very dry, and of light soil, yet snails are plentiful; therefore I conclude that birds do not readily attack ripe fruit where animal food is plentiful.—T. W. Swabey, Bracebridge Heath, Lincs, August 3.

[7189.] You invite your readers to give their observations on the subject treated under the heading "Birds and Bees" (7176, page 306). I have no raspberries in my garden, but I have noticed that thrushes and blackbirds, of which there are many in my garden, never go at all near the hives, although there is plenty of cover for the slugs and snails which form their usual diet. Sparrows and robins, however, are often quite close to the hives; one pair of robins nested and brought off three broods in some ivy on a wall within 2 yards of the hives. The nest was about 1½ yards above one of the hives.—Dorothy Ernest, Stansted, Essex.

BIRDS AND FRUIT-STEALING.

A POOR HARVEST IN KENT.

[7190.] I think your correspondent Mr. G. S. Newth (7176, page 306) is mistaken with regard to blackbirds and thrushes being afraid of bees. My hives are located in a large orchard, where a good many varieties of fruit are growing, including raspberries, and I happen to have a large bed of the last-named fruit, but although the canes are not situated near any hives, the fruit is not troubled with birds. My

opinion is that blackbirds and thrushes do not care for raspberries, though it is perhaps too much to say that they do not occasionally carry off a ripe raspberry at odd times. On the other hand, we have a bed of black currant bushes growing in front of my hives, and these were completely stripped of their berries. I have even seen the birds sitting on the hive-roofs eating the ripe bunches of fruit. It is very pleasing to hear that some bee-keepers are having such a good honey harvest this year, but I am sorry to say I shall not come off very well myself. I fear my harvest will not average more than 20 lb. per hive from my twenty-four stocks, although they are all crammed full of bees.—JOHN CHANDLER, Blackheath, S.E.

NOTES FROM NORTH HERTS.

ABOUT FOUL BROOD.

[7191.] The abbreviated report in B.B.J. of July 23 (page 292) of the Franco-British Congress attributes to me the view that foul brood of bees is due to a weakness of constitution. The term is liable to be misinterpreted as meaning a low state of health, but this is not necessarily an accompaniment of liability to disease. The environment to which the ancestry has been subjected appears to be the chief factor, and this is easily verified when we consider diseases to which the human race is liable. The races that experience a disease for the first time suffer severely, and many peoples have been all but exterminated by the diseases that civilisation has introduced. It is obvious that a continued importation of aboriginal races would prove no remedy for the depopulation, as it would be merely adding fuel to the fire of disease. This, however, appears to be the policy adopted by bee-keepers who are anxious to purchase stocks from districts where disease is unknown. In districts where foul brood is endemic it has practically lost all its terrors, and the same results would accrue if the susceptible strains were eliminated by re-queening. If accompanied by the disinfection or destruction of frames, &c., it would probably be as effective as the complete destruction of the stock by fire. The latter course is too expensive to be adopted on a very large scale.

Dr. Lortet, who gave us the naphthol beta remedy, and Professor Harrison, of Toronto, both noticed, when experimenting, how difficult it was to communicate the disease to some stocks. These only succumbed when bombarded with disease germs to an extent they would probably never experience outside an experimental apiary.—G. W. BULLAMORE, Albury, Herts.

EXPERTS' EXAMS. IN SOUTH AFRICA.

[7192.] In reply to your friendly criticism of my letter *re* expert's certificate, which appeared in the B.B.J. of June 18, I beg to state that I acted chiefly upon former information which appeared some weeks earlier dealing with the subject. Previously you stated that if the conditions expressed by you were acceptable to me, "the necessary papers could be forwarded to me." From that I was apparently misled. However, I regret the loss of time and misunderstanding very much. Nevertheless, I am prepared to undergo an examination conducted by Miss Sillar, of Bloemfontein, as soon as a date can be arranged. I sincerely hope that this letter will suffice for all parties concerned, as the season for work in the apiary is fast approaching, and with more delay my chances of sparing time for a trip to Bloemfontein this year are not so good. Anxiously awaiting your reply, I send name, &c., and sign as before—CAPE BEE-KEEPER, Douglas, Cape Colony, July 18.

[We share our correspondent's regret that there should have been delay in making the necessary arrangements for the examination in question, and we must explain that a still further delay is inevitable. In fact, our part of the transaction must consist of bringing to the notice of the Secretary of the B.B.K.A. our correspondent's wish to present himself as a candidate for the third-class certificate. This will be brought forward at the next Council meeting, and the necessary arrangements will no doubt be made for Miss Sillar's appointment as examiner. For the rest, the matter will be dealt with at the office of the B.B.K. Association, 12, Hanover Square, London, it being no part of our business, as Editors, to deal with examinations of candidates.—EDS.]

DO BIRDS FEAR BEES?

USING THE SUPER-CLEARER.

[7193.] With regard to Mr. G. S. Newth's inquiry (7176, page 306), I may say that the thrushes and blackbirds in our neighbourhood have no fear whatever of bees; they build their nests in the fences only a few feet away from the hives, and my next-door neighbour (who has eleven stocks of bees) has had to net all his raspberry canes this year, because last season, though he had an abundant crop of fruit, he had hardly a whole berry left, which was, as he said, "most exasperating." He also added: "I should not grudge them a fair share, but they come and nibble away at every berry till there's not a decent one left."

This summer we have been amused to see the thrushes and blackbirds sitting disconsolately on the rods supporting the netting, first looking with one eye and then with the other at the tempting ripe fruit hanging in such profusion just out of their reach.

May I ask if you can give me any idea why bees sometimes spoil sections before leaving the supers by means of the super-clearer? My gardener was much disappointed a few days ago; he had placed the super-clearer fitted with "Porter" escape underneath a rack containing seventeen perfectly filled and sealed sections (some of which he was intending to send to a show), and in the morning he found that though the rack was quite clear of bees, showing that the escape was in proper working order, they had spoiled and partly uncapped one side of every section. I should be glad if you would explain this, and also if you think it would be any use replacing the rack, to see if the bees would reseal the spoiled sections. With kind regards and many thanks, I send name, &c., and sign—HEATHER, Sidmouth, August 2.

[We fear your gardener has not been sufficiently gentle in removing the sections, and has disturbed the hive more than was necessary in operating. It should be borne in mind that giving smoke, or any undue roughness in manipulating, or giving too much smoke when handling racks of sealed sections causes the bees to gorge themselves with honey, and in doing this they will break the cappings of sealed combs in order to get at the honey. This has evidently been so in your case, and, being late in the season, the bees have, in their alarm, started carrying the honey down into the brood-nest. It will be risky to give the sections back to the bees for completion unless honey is coming in well in your district.—EDS.]

WEATHER REPORT.

WESTBOURNE, SUSSEX.

July, 1908.

Rainfall, 2·03 in.	Minimum on grass, 43° on 20th.
Heaviest fall, ·90 in. on 16th.	Frosty nights, 0.
Rain fell on 8 days.	Mean maximum, 69·5.
Below average, ·56 in.	Mean minimum, 52·5.
Sunshine, 230·4 hours.	Mean temperature, 61.
Brightest day, 2nd, 14·5 hours.	Above average, 0·9.
Sunless days, 2.	Maximum barometer, 30·438 on 29th.
Below average, 3·5 hours.	Minimum barometer, 29·558 on 17th.
Maximum temperature, 81° on 2nd.	
Minimum temperature, 45° on 27th.	

L. B. BIRKETT.

JULY RAINFALL.

Total fall, 5.89 in.

Heaviest fall in 24 hours, 2.50 in. on 16th.

Rain fell on 12 days.

W. HEAD, Brilley, Herefordshire.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of July, 1908, was £3,835.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

Bee Shows to Come.

August 14, in Public School, Portwilliam, Wigtownshire.—Honey Show in connection with the Horticultural Society. Classes for Sections and Extracted Honey, open to amateurs and cottagers. Challenge Class (open to all) for 3 1-lb. Jars Extracted Honey, prizes 20s., 12s., 8s., and 4s. Schedules from Secretary, Horticultural Society, Portwilliam, N.B.

August 19, at Lancaster.—Honey Show and Bee Demonstration, &c., in connection with the Lancaster Agricultural Society's Show. **Entries closed.**

August 19 and 20, at Shrewsbury.—Annual Show of the Shropshire Bee-keepers' Association will be held in the Quarry, Shrewsbury, in connection with the Shropshire Horticultural Society's Great Floral Fête. Eight Open Classes for Honey. Free Entry for Single Bottle and Single Section. **Entries closed.**

August 20, at Abingdon Park, Northampton.—Honey Show of the Northants B.K.A. Special prizes for open classes, including one for single 1-lb. jar honey. (**Entry free.**) Prizes 20s., 10s., 7s. 6d., and 2s. 6d. Schedules from R. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 16.**

August 22, at Elworth, Sandbach.—In connection with the Elworth Athletic Club and Horticultural Society's Show. Class for Honey, open to the County of Chester. First prize 15s., second 7s. 6d., third 5s., for twelve 1-lb. Jars Extracted Honey; also Bronze Medal given by the Cheshire Bee-keepers' Association. Entry fee 1s. Schedules from A. E. Wright, Hon. Sec., Elworth, Sandbach. **Entries close August 15.**

August 26, at Chester (Cheshire Agricultural Society's Show). — Bee and Honey Department, under management of the C.B.K.A. **Entries closed.**

August 26 and 27, at Solihull, Warwickshire.—Show of Honey, Hives, and Appliances, in connection with the Warwickshire Agricultural Society. Schedules from J. N. Bower, Hon. Sec., Knowle, Warwickshire.

September 3, 4, and 5, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-six Classes (nine open to all). Increased Prizes and Medals. Schedules from F. B. White, Secretary, Marden House, Redhill, Surrey. **Entries close August 22.**

September 5, at Bramhall. — In connection with Bramhall Horticultural Show. Honey Section under management of C.B.K.A. Liberal prize list for Honey, Extracted or Sections, and Wax. Silver and bronze medals for Local Class. Schedules of Mr. J. Sibson, Kitts, Moss Lane, Bramhall, Stockport. **Entries close August 31.**

September 5 to 12, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners' Bakers', and Allied Trades' Sixteenth Annual Exhibition and Market. (See large advertisement on page iv.) **Open to all British Bee-keepers.** Entry fee in each class 1s. Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 9, at Wilmslow, Cheshire.—In connection with Adlington and East Cheshire Agricultural Society. Honey Section under the management of the C.B.K.A. Bronze medal for District Class. Liberal Prizes. Open and District Classes. Schedules of Mr. J. Sibson, Bramhall, Stockport. **Entries close August 31.**

September 12, at Dumfries.—Annual Show of South of Scotland B.K.A. Five Open Classes: 3 Bottles, 20s., 12s., and 6s.; 3 Sections, 15s., 10s., and 5s. (entry 2s.); 1 Bottle, also 1 Section, 5s., 3s., and 2s. (entry free, and exhibits retained unless otherwise agreed upon); Beeswax, 5s., 3s., and 2s. (entry 6d.). Thirteen classes for members. Schedules from Q. Aird, Hardgate School House, Dalbeattie, N.B. **Entries close September 5.**

September 14, at Conway, N. Wales.—Annual Honey Show, in connection with the Conway Honey Fair. Open and Local Classes. Schedules from J. Hughes, Town Hall, Conway. **Entries close September 7.**

September 19 to 26, at the Agricultural Hall, London.—Honey Show in connection with the Sixteenth Annual Exhibition and Market of the Grocery and Kindred Trades. (See large advertisement on page iv.) Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.** Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 23, at Altrincham.—Honey Show in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. Classes for Trophy of Honey, for Best Hive, Observatory Hive with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester, for Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low entrance fees. Schedules from Mr. J. Herbert Hall, 2, Dunham Road, Altrincham. **Entries close September 5.**

BEE-KEEPING AT OLYMPIA.

DEMONSTRATION WITH LIVE BEES.

Practical illustrations of cottage gardening and bee-keeping are to form one of the most prominent features of the Ideal Home Exhibition at Olympia, which is being organised by the *Daily Mail*. The large annexe, which covers over an acre of ground, is to be converted into "A Corner of England." There will be a real model cottage standing in a series of gardens laid out by a landscape gardener. One of the gardens will be on the French plan, and the whole system of growing vegetables under bells and frames will be shown. Skilled operators will give practical demonstrations of the treatment of the soil and various other processes, whilst bee-culture will also be shown by experts. In all, there will be over twenty operators, including those from the Studley Horticultural College, who will demonstrate every phase of garden work. Cottage gardening on so complete a plan has never before been exhibited in this country.

Queries and Replies.

[3761.] *Honey for Showing.* — I am wishing to send some extracted honey to exhibition at the Royal Agricultural Hall next month, and as it is my first attempt at showing, I should like you to answer the following in next issue of B.B.J.:—1. What class should honey of a bright golden colour be entered in? Would it be classed as "light" or "medium" colour? 2. Also what would be considered a dark honey? I ask this because I had some last year almost as black as ink. 3. Kindly say if enclosed comb is diseased or not. Thanking you for past favours, I send name, and sign—R. E. S., Southampton.

P.S.—I often see the question asked in the B.B.J. about keeping bees near dwelling-houses in towns. I may say I have kept bees for about five years quite close to the house in town, and have not had any complaints about same from neighbours; so, if you approve, I would, later on, send a photo of my hive and surroundings if you think it would be of any use to other readers who are thinking of keeping bees in town.

REPLY.—1. If the honey is of *light golden colour* it should go in the "light class." 2. Medium colour is—as the name implies—between light and dark. To make this plain you can get the "colour glasses" for a few pence from the B.B.J. office, with instructions how to arrive at the respective grades of "light," "medium," and "dark." 3. The comb sent is slightly affected with foul brood in the mild form. Referring to keeping bees in towns, we shall be glad to see your photo, and, if suitable, will have a tone-block made from it for insertion in our pages.

[3762.] *Moving Hives in August.*—I have kept two hives in a small garden in the town for about eighteen months, and I find that they do not give a very satisfactory surplus of honey—probably due to bad management on my part—but I have made arrangements to keep them with some other stocks I am purchasing in a cottage garden some two miles out. This being so, I should be very much obliged if you would tell me when I had better move the hives. The two stocks I have at present in the town will be moved between two and three miles on to their new stands; the others about four miles. I am a subscriber to your journal and have the "Guide Book," which I find invaluable. I enclose my name and address, and sign myself—NOVICE, North Wales, Wrexham, August 7.

REPLY.—If carefully packed for safe transit in the present warm weather the hives may be moved to their new stands at once, the distance being great enough to prevent any loss of bees through change of location. Instructions for safe packing will be found in the "Guide Book," pages 115 to 120.

[3763.] *Swarming Troubles.*—In the second week in May I bought what was supposed to be a strong and expensive stock of bees. About three weeks later they swarmed, and I found two queens dead near the hive and two more with the swarm, none being left in the parent hive. I returned the swarm to the hive with the two queens, one of which was found dead outside next morning. The brood-combs were black and dirty-looking, and evidently very old. I changed four of these for fresh ones. Up to the present I have had no honey, and even the brood-chamber is not more than half-full of honey at the present time. Is this the fault of the original stock, and was it not a good one? Name sent for reference.—INQUIRER, Orpington, Kent.

REPLY.—The fact of the stock swarming so early in so bad a season as the early part of the present year is presumptive evidence of the stock in question being a strong one. In the next place, we can only suppose that the bees had swarmed unseen a week before the date given, and that through some mishap the old queen was lost, and the bees had returned to their hive in consequence, so that the swarm you hived was accompanied by the young queens, which hatched out after old queen was lost. Only in this way can we account for the dead queens cast out. With regard to the stock "not being a good one," no fault could be found except with the condition of the combs, which should not be so "old and black," as stated, in "an expensive stock of bees."

[3764.] *Home-made Hives.*—Would you be good enough to answer the following question? I was

reading in the "Practical Notebook" that hives could be made out of Quaker Oats boxes, egg-boxes, &c., and this makes me ask: Would not that wood be liable to shrink or warp? When I made alighting-boards of that sort of wood it shrank and left wide spaces where it was joined. Thanking you in anticipation.—H. WINTER, Harlow, Essex, August 3.

REPLY.—Whatever faults you may have found in the wood used by yourself, it is plainly evidenced by the photos sent and the experiences given by those who have used Quaker Oats boxes and other such boxes for constructing home-made hives that such wood may be advantageously used, and we should fear no bad results to yourself by following the directions given in the "Notebook" referred to.

[3765.] *Using Old Foundation in Sections.*—On page 296 of B.B.J. Mr. John Silver gives, amongst other reasons for bees not entering sections, that his neighbour "had used old foundation which had been on the hive last year." I shall be glad to know if this is your own experience. I have had trouble to get bees into sections; this year I have used many which had been on hives in 1907.—JOHN W. LEIGH, Keswick, August 1.

REPLY.—The use of old foundation was only one of many reasons given on page 296 for the bees refusing to enter the sections in question. At the same time, we may say that our experience teaches that foundation a year old may be rendered quite suitable for use by dipping it in warm water to soften and render it pliable when giving it to the bees. Where sections are already fitted with foundation this is, of course, not practicable; but, as shown in Mr. Silver's letter, the failure was attributable to other causes.

[3766.] *Transferring and Uniting Bees.*—I have a hive which will only take top-bars 16½ in. long, necessitating cutting the top-bar of standard frames and making interchange difficult. I want to replace this with a new hive taking the full-sized standard frame, and at the same time wish to unite the stock (a rather weak one) now in the hive to a strong colony of bees at present in a skep. There is a good amount of honey and some brood in the hive, and I thought of alternating the frames (though the top-bars are ½ in. short) with new frames fitted with full sheets of foundation, keeping the frames without brood for use elsewhere. And so I ask:—1. Is this advisable? 2. As I am quite a novice I should feel greatly obliged for suggestions how to proceed in changing hives and in uniting the two colonies. 3. What time of year would be best for these operations? 4. I have also a queenless hive with a good deal of honey on the frames and a skep near by with a very strong colony of bees. Can I unite the skep-bees with the hive-bees now, and how should I proceed after driving?—J. W. H., Newbury.

REPLY.—1. When interchanging the frames with short top-bars it will necessitate care in spacing them so that the side-bars will hang at the ⅞ in. distance from the hive-sides; apart from this no trouble should arise. 2. We should drive the bees and queen from the stocked skep into an empty one in the usual way, as shown in "Guide Book," and just before uniting dust the bees in the frame-hive with flour; then throw the driven bees out in front of the entrance and sprinkle them with a little flour as they run in. This will prevent any quarrelling among the bees. 3. As soon as the honey-flow for the year is ended, and operate in the evening before sundown. 4. This query is answered above.

[3767.] *Artificial Swarming and Re-queening.*—A short time ago I made an artificial swarm from a very strong stock of Italians, and sent to a dealer for a fertile queen to introduce to the queenless portion. Four days later, when the queen arrived, I opened the parent hive, cut out about thirty-six queen-cells (eighteen on one frame), and gave them the purchased queen to release from its travelling-cage. Considering the lapse of time—for queen-cells can hardly be considered queens—could the new queen have been introduced without undue risk by the "Simmins" method?—F. M. G., Dorset, July 21.

REPLY.—It is fairly safe to say that the alien queen would be received all right by the queenless stock under the circumstances stated. It is unusual for Italian bees to build so many as thirty-six queen-cells after having an artificial swarm taken from them.

[3768.] *Queen-raising at End of July.*—On July 17 a friend and I opened a hive with the intention of placing in the brood-chamber an empty comb for the purpose of obtaining eggs preparatory to "queen-raising" as per "Guide Book." This we found unnecessary, as there were already nine or more queen-cells in the hive, all sealed over except one. The weather being unsettled and cold, we decided to wait a day or so before searching for the queens which were to be supplanted; but three days later we found on opening the hive all the queen-cells destroyed except two, which latter we cut out to be used elsewhere. The fact of eggs being found in one or two frames of comb showed that the old queen was still in the hive. One expert says that in destroying cells bees were selecting the best for their future queen; another experienced bee-keeper declares that the old queen destroyed them. I shall be glad to know what is your theory.—W. J. B., Leicester.

REPLY.—To start raising queens so late in the season as the third week in July is hardly in consonance with the instructions in the "Guide Book" under that heading; and we are not surprised at the unlooked-for conditions arising therefrom. The most likely explanation we can offer so far as regards the destruction of queen-cells is that the cells were raised in preparing for swarming; and later on the bees, for some reason, gave up the idea and destroyed them as stated. The fact of two cells being left counts for little; indeed, it is more than likely that the cells you took away "for use elsewhere" will be found useless or abortive. Reference to the instructions for queen-raising as given in "Guide Book" (chapter xxiv.) show that operations for queen-rearing should be started in April, long before bees will have begun to think of swarming naturally, while your start was timed so late that drones would probably have been killed off before the time for queen-mating was reached, and thus your work would have been wasted.

[3769.] *Building up Stocks from Driven Bees.*—I shall be obliged for an answer in the B.B.J. to the following queries:—1. What is the reason why drawn-out combs may be given alternately with sheets of foundation to swarms and not in the case of building-up stocks from driven bees, as directed in the "Guide Book"? 2. Is it advisable to give driven bees a frame of brood from a strong stock when carrying out the plan described? 3. How are young queens to be fertilised when there are no drones in apiary through giving worker-comb only? Name, &c., sent for reference.—LEX, Wrexham, August 8.

REPLY.—1. Because the conditions are different in the respective cases. Driven bees turned out of their hives in autumn and forced to furnish their new home at a season when honey-gathering is over for the year are very differently placed from a swarm in early summer, and must be dealt with in accordance with the altered conditions. 2. No; this is quite unnecessary. 3. You need not give any thought to there being no drones in your own apiary. Young queens usually mate with other drones than those from their parent stock.

Notices to Correspondents.

*** *Erratum.*—In our report of the B.B.K.A. meeting, held on July 16, the name of the gentleman who passed his examination for the third-class expert's certificate should have appeared as Mr. Lawrence Laver Goffin, not "Lawrence Laver" as printed.

*** *Queen-bees from Italy.*—We have to thank several correspondents for kindly sending Mr. Howard's correct address in response to our note on page 309. We have also received a note from Mr. Howard himself, dated from St. Joseph's, Kingswood, Bristol, in which he says:—"I beg to thank you for having so kindly inserted Mr. Penna's inquiry in this week's issue of your valuable little paper, of which, I am pleased to say, I am a constant reader. I shall communicate with Mr. Penna at once."

B. Rayyard (Sheffield).—*Ants in Hives.*—1. These are included in "Enemies of Bees," and should be kept out of hives. The best method we know of for doing this is that given in the "Guide Book," page 168. 2. Only an inspection would enable us to say why your "two strong stocks will not enter sections."

C. C. (Briston).—*Keeping Honey from Granulating.*—This can be done by keeping it at a temperature of 55 to 60 deg. Fahr. in a dry cupboard.

A. Gracie (Hants).—*Selling Honey.*—Your best course is to advertise in our prepaid columns, stating price wanted and quality of your sections. If good, and a fair price is asked for the hundred in one lot, they should find a purchaser; or you may see likely buyers in the same pages.

C. E. M. (Essex).—*Dead Bee Cast Out of Hive.*—1. There is nothing in bee sent to show cause of death. 2. Fortunately, it is not the queen of the stock, but simply a drone.

B. B. C. (Galashiels).—*Robber-bees.*—The black shiny appearance of bees sent is not a distinctive mark of race; it simply means that the pubescence or hairiness has been worn off their bodies in the strenuous work of robbing other hives. Bees having the appearance of those sent are known as "robber-bees."

W. E. Shaw (Manchester).—*Joining County B.K. Associations.*—There are county associations for both Lancashire and Cheshire. Mr. R. S. Linnell, Grosvenor Chambers, Chester, is hon. secretary of the last-named association, and Mr. J. N. Bold, Almond's Green, West Derby, Liverpool, hon. secretary of the Lancashire B.K.A.

H. Jackson (co. Durham).—*Dead Queen Cast Out of Hive.*—The dead queen sent is too dry and hard for diagnosing the cause of death by post-mortem examination. It seems like a virgin queen that has been badly "balled" before death.

L. M. (Halesowen).—*Queens or Workers?*—Both bees sent are workers, though the larger one might easily deceive an inexperienced eye.

J. Crewes (Truro).—*Varieties of Heaths.*—The sprig of heather sent is the true ling, *Calluna vulgaris*, which is the best variety by far for bee-forage.

Honey Samples.

R. S. M. (co. Tyrone).—Second sample is very good indeed, and fit for showing anywhere; but, so far as memory serves, the first sample was equal to it in quality. We should enter both if convenient.

A. Z. R. (Warwick), Axe (Somerset), and Bachelor (Macclesfield).—All these are samples of excellent clover honey, fit for staging in the "light" class on any show-bench in the kingdom.

Novice (Stroud).—Sample is of very good quality, and is suitable for the show-bench anywhere. It will, however, need warming slightly in hot water to remove the signs of granulation already showing in specimen.

W. G. H. (Newport, Mon.).—Sample is very good, and should stand a good chance at the local show mentioned.

F Round (Southport).—Sample is exceedingly good for colour and brightness. It is almost wholly from clover, but there is in it a slight admixture from some source that is new to us and which we cannot define. It is, however, a very good honey.

A. W. G. (Flintshire).—Sample is from mixed sources, none of which is sufficiently marked to give character to the honey, unless it be lime. Being nearly solid, it will need reliquefying if intended for sale as liquid honey.

J. C. (Blackheath).—Sample is fair in quality, but hardly good enough for the show-bench in a season like the present one. It is from mixed sources, the prevailing flavour being from limes.

Mrs. E. J.—Your honey is of excellent quality, from white clover. It is good enough for any show-bench.

Suspected Combs.

E. W. F. (Hants).—Judging by the sample of comb sent, the stock is evidently in a bad way, apart from signs of "black brood" in the dead larvæ seen in the very few sealed cells. It is of little use trying to cure a stock in the condition stated, and we advise you to destroy it outright.

F. B. (Leicester).—Sample shows a rather bad case of what is known as "black brood." It is not *Bacillus alvei*, nor is the disease of long standing, but it will need careful watching and the use of disinfectants.

Nemo (Haydon Bridge).—The comb sent, though almost newly built, is affected with the mild form of foul brood which has been called by some "European foul brood." You must use your discretion with regard to sending the stock to the moors.

David (Cardiff).—There is no brood at all in sample sent, but the comb is so old and black as to be unfit for use in any hive. We should burn such combs out of sight as worse than useless.

J. K. (Penrith).—The comb sent shows a typical case of foul brood in the mild form of the disease now termed in America "European foul brood." It is new to this country, and quite different from the virulent type of the disease we have for so long been accustomed to. We have advised those troubled with the pest in this form to use disinfectants and let the bees work till the honey season begins to close. Then if the stocks are strong they can be got off their combs and dealt with as a swarm according to instructions in the "Guide Book."

Novice (Stroud).—The dead larvæ in the five or six sealed cells in comb sent appear to have been slightly affected with the disease known as "black brood"; but as comb has only been bred in once and so few of the larvæ have failed to hatch, we should rely on the ordinary disinfectants for effecting a cure, helped by the good weather and good honey yield.

"Pilot Flake" (Derby).—We are sorry to see sample. It is not, however, affected with *Bacillus alvei* as you suppose, but is apparently the minor form of disease known as "black brood." It may possibly cure itself before the season is over. We should not advise you to winter the bees on heather honey, as some who have had experience of the disease appear to think that heather honey in some way causes the bad effects you complain of.

W. Brown (York).—Comb contains only drone-brood in worker-cells along with fresh pollen. There is no disease.

F. W. R. (Widnes).—1. Sample does not contain what we know by the term "foul brood" (*Bacillus alvei*), but contents of the few sealed cells (only three) have the appearance of the minor form of the disease termed "European foul brood" in the U.S.A. 2. The bees will not remove the dead larvæ when in the condition seen in your sample.

J. W. H. (Cumberland).—No trace of dead larvæ in comb, most of the latter being occupied by dead bees lying head foremost in the cells, as bees always lie when dead from famine. We see no sign of disease.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

2 STOCKS BEES, with crates and drawn-out Sections, 25s. each.—ARNOLD, 77, Elsinore-road, Forest Hill. j 48

HONEY IN BULK, in lots of not less than 2½ cwt., and Sections wanted.—Send sample and lowest cash price to W. H. HOOPER, Bee Expert, Moseley Bank, near Worcester. j 39

3 OLD UNFRAMED OIL-PAINTINGS, good. Exchange either geared extractor, honey bottles, or cash. Approval. Particulars stamp.—78, Preston-road, South Yardley. j 47

FINEST CLOVER SECTION HONEY, in card cases, 8s. 6d. dozen, in 2-dozen crates, returnable, carriage paid.—L. MEASURES, Tilbrook Grange, Kimbolton. j 46

DRIVEN BEES, strong healthy lots, with fertile Queen, 4s. 6d. on rail; young Queens, 1908, 2s. 6d., including introducing cage. Cash with order; prompt delivery.—MISS E. SOLE, Stotfold, Beds. j 45

FOR SALE, PURE ENGLISH HONEY, Sainfoin Clover. Sample, 3d.—LAW, Cuckoo, Ashwell, Herts. j 44

FINEST CLOVER HONEY, £3 per cwt.; sample 3d.—SMITH, Hope House, Caistor. j 43

2 10-FRAME HIVES, 5s. each; 3 12-Frame, 7s. 6d. each; 15 Shallow Frame Supers, 6d. each; 4 Section Racks, 6d. each; 1 Wax Extractor, 5s. 6d.; 5-Framed Queen Excluders, 9d. each; 1 dozen Plain, 4d. each; Skep, 1s.; 3 dozen tin Dividers, 2s.; 72 Sections, fitted with Foundation, 6s.—DAWSON, Clark-road, Wolverhampton. j 42

FOR SALE, 2 NEW FRAME HIVES, with Lifts and painted, 8s. each. Deposit; or exchange Driven Bees.—WARREN, JUN., Great Horwood, Winslow. j 41

5 EMPTY 6-FRAME NUCLEUS HIVES, 3s. 6d. each; also good Honey Strainer, new, cost 12s., accept 7s.; good Clover Sections, 8s. dozen.—HARRISON, Farm, Middleton, Pickering. j 40

BANAT BEES FROM HUNGARY.—They are good all round; try them; add new blood to your Apiary. Fertile Queens, raised from imported mothers, 5s. each, by return of post.—O. KNIGHT, Epney, Stonehouse, Glos. j 37

HEALTHY DRIVEN BEES, in August, 5s. per lot; boxes returned. — HIGLEY, Expert, Mason-street, Kidderminster. j 35

HEALTHY DRIVEN BEES, with Queen, 5s. lot; Fertile Queen Bee, 2s.; per post 2s. 2d.; packages free; "Little Wonder" Extractor, perfect condition, 6s.—ROLLINS, Stourbridge. j 35

WANTED, Straight, Healthy Drawn-out Brood and Shallow Bars.—EDWIN GLOSSOP, Ambergate. j 38

17 CWT. PURE ENGLISH HONEY, 1908, Extracted, finest quality, 59s. cwt., free on rail. Cash offers only entertained. Sample 3d.—JOCKMAN, Sidney Farm, Cambridge. j 33

Special Prepaid Advertisements. *Continued*

MAHOGANY SHOW-CASE, to take one Shallow Frame, 4s. pair.—BURTT, Gloucester. j 32

"ROYAL SOVEREIGN" Strawberry Runners, best strain. I will send 100 for 2s., carriage paid.—A. J. MARSH, Baytree Cottage, Polegate. j 34

WANTED, HONEY, for cash, or exchange Hives, Cycle. Sample.—HORTON, Flixton, Manchester. j 31

8 "W. B. C." BODY-BOXES, with 10 Standard Frames, new condition, 3s. each; also a few good secondhand Hives, fitted with Frames, 5s. each.—HARRISON, Farm, Middleton, Pickering, Yorks. j 30

DRIVEN BEES, well packed, 5s.; Fertile Queens, 2s. 6d.—70, Highgate-road, Birmingham. j 50

2 LOTS DRIVEN BEES WANTED, one headed with pure Carniolan, one with Black English Queen, must be pure and healthy, not under 4 lb. each.—JOHN SPITTAL, Kelty, Fife.

HEALTHY STOCKS, on 8 Frames, £1; Fertile Queens, 3s.; Driven Bees, 5s., with Queen; on 5 Frames, Comb and Brood, 10s. 6d.; Pure Extracted Honey, 7d. lb.—BLAKE, Knowstone Vicarage, South Molton, Devon j 62

WANTED, SOON, SEVERAL LOTS OF DRIVEN BEES.—Apply, JOHN MARR, Shethin, Tarves, Aberdeenshire. j 60

EXTRACTED ENGLISH HONEY, £3 cwt.; sample, 2d., tins free.—DUTTON, Terling, Essex. j 58

QUEENS.—5 1908 Fertile Hybrids, 6 Blacks, all from good stocks, sent in my special combination cages, 2s. 6d.; selected 3s.; cages only, 6d. each.—J. SILVER, Croydon Grove, Croydon. j 56

WANTED, FOR WINDOW SHOW, Frame, with Bees; could send own Observatory Hive. State price, two weeks. — RUSHTONS, Chemists, Farnworth, Bolton. j 61

WANTED, GOOD SECTIONS LIGHT HONEY and HEALTHY BEES.—SLADEN, Ripple Court Apiary, Dover.

FINEST NEW HONEY, bulk or bottles; sample 2d.; also some good Sections. Price on application.—W. CANHAM, Fordham-road, Soham, Cambs. j 54

WANTED, GOOD LIGHT EXTRACTED HONEY, any quantity; tins provided. Sample and price.—DELL'S, Leigh, Lancs. j 53

WANTED, SECTIONS FOR CASH, first quality.—State quantity to W. CHILTON, Southdown Apiaries, Polegate. j 51

2 STOCKS PURE GUARANTEED HEALTHY ITALIAN BEES, at 25s.; with 1908 Queen; also several fine Golden Queens, at 5s. each.—POTTS, Dutton, Preston Brook, near Warrington. j 59

HEATHER HONEY.—I can offer for use at the heather, 16 Racks of 21 well-filled 1-lb. Sections of Worked-out Comb, at 4s. each; a pair at 3s. 9d. each, 6 at 3s. 6d.; Racks in good condition and well made.—CHARLES LODGE, High Easter, Chelmsford. j 49

ITALIAN QUEENS, direct from Italy. — E. PENNA, Bologna, Italy, from July to October, one Queen, 3s. See advertisement in "B. B. J.," July 30.

HEALTHY DRIVEN BEES, with Queen, 5s. per lot, boxes returnable; spare Queens, 2s. 6d. each.—MORETON, Bee Expert, Hallow, Worcester. j 26

HEALTHY DRIVEN BEES, commencing August 1 4s. per lot, with Queen Boxes, to be returned. Orders rotation. Cash with order.—T. PULLEN, Ramsbury, Hungerford. h 84

LOOK! LOOK! LOOK! Genuine "W.B.C.," with 10 Frames and Rack of Sections, 15s., fitted with wired Foundation, 19s.; Cottage Hive Fittings, as above, 9s. 6d. to 13s. 6d.; Driven Bees like these Hives. Try one now. —SOUTHERN BEE SUPPLY CO., Hellingly, Sussex.

Special Prepaid Advertisements.—*Continued.*

BEE-KEEPING MADE EASY.—Profit and pleasure; a new Hive, by Royal Letters patent, No. 16,651, '07. First prize, Cardiff. On view at Shrewsbury Show.—Particulars from D. DAVIES, Abergwili, Carmarthen. j 27

GLAZED SECTIONS WANTED, any quantity. State price, must be light and new. Honey and Sections also received for Sale on Commission. —THE HONIELADE CO., 23, Moorfields, E.C. j 20

STOCKS OF 8 STANDARD FRAMES, Comb and Brood, 22s. 6d.; 10 ditto, 25s. 6d.; 3-Frame Nucleus, 12s. 6d.; 1908 Fertile Queen; or exchange good Extracted Honey. Hives supplied if required. Good Honey Extractor, Cowan Gearing, nearly new, 21s.; 6 Racks Drawn-out Combs, in Sections, 5s. 6d. each, very clean.—W. WOODS, Normandy, near Guildford. h 55

GARDENER, YOUNG, seeks employment amongst outside fruit, vegetables, and bees. —"BOOTS," c/o "Bee Journal." j 2

FINEST SCOTCH CLOVER HONEY, £3 cwt.; samples 3d.—T. RULE, Summervale Apiary, Annan, Dumfriesshire. j 1

SECTIONS AND EXTRACTED HONEY WANTED.—State price to T. SMITH AND CO., Cambridge-street, Hyde Park, W. j 5

HEALTHY DRIVEN BEES, good lots, Young Queens, delivery August. 5s. per lot, boxes free.—H. KEMP Frome, Somerset. j 4

"THE PREPARATION OF HONEY AND WAX FOR THE SHOW BENCH," post free 7d.— JOSEPH TINSLEY, Chebsey, near Stafford. h 24

VARIABLE SEASONS.—The "S. J. B." tested and guaranteed Queens, producing the best of workers. Unqualified success. Safe delivery guaranteed. 4s. 6d. each.—BALDWIN, Apiary, Bromley, Kent.

SECTION GLAZING.—Best quality Lace Paper, made especially for Bee-keepers' use, not common box edging, white, 100 6d., 300 1s. 4d., 500 2s. 3d., 1,000 3s. 9d., post free; blue, green, or pink, 100 7d., 300 1s. 6d., 500 2s. 6d.; Lace Bands, 2⅞in., 3in., and 3½in. wide, white, 100 1s. 2d., 200 2s. 3d., 500 4s.; a few in pink and blue, 100 1s. 4d., 200 2s 6d.—W. WOODLEY, Beedon, Newbury.

THE FAMOUS "BURKITT" BEE GLOVE, the most successful glove invented; sold throughout the world by Bee Appliance Dealers; makes Bee-keeping a pleasure. Price, 3s. 6d. per pair, with sleeves; 2s. 6d. per pair without; post free. Send size with order. — EDWARD REYNOLDS, manufacturer, Andover, Hants.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

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APIFUGE will also be found extremely useful for travellers in foreign countries where insect pests abound. Bottles, 1 - post free.

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1/ 1 per 100. 500 8 9. Lace Paper, 6d. 100, 3/6 1,000.

Glazed Section-cases, 1s. 6d. doz.; Extractors, Ripeners, &c. Having bought quantity finest 1-lb. Screw-cap Honey Bottles, show quality, sloping shoulders, I offer at following low prices: 15s. 6d. gross, 3 gross at 14s. gross; usual price 18s. 6d.

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Best and most accurate. Catalogue free.

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"Beatall" Hive Works, DYKE, BOURNE.

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"BRITISH GOLDEN" BEE.

Fertile Queens, 10/6 each. Virgins, 2/6, post free.

Young Fertile English Queens, in August.. 3/6 each

American Golden Fertile 1908 Queens .. 6/6 each.
Pure Imported Italian Fertile Queens .. 6/6 each.
Pure Imported Carniolan Fertile Queens.. 8/6 each.

These Queens are imported direct from their respective native countries, and will produce pure workers.

For full particulars see Sladen's Complete Catalogue of Bees and Queen-Rearing Appliances. Bees and Queens Exported.

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BRICE'S SPECIAL HYBRIDS.

	July to Sept.
SELECTED AND TESTED QUEENS ..	5/0
VIRGIN QUEENS	2/6
PURE ENGLISH QUEENS	4/6
VIRGIN QUEENS	2/3

Write for full Price List.

All Correspondence to **BRICE'S APIARIES,**

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DRIVEN BEES.

August, 7/6 per lb.; Sept., 1/3 per lb.

Not less than 4 lb. recommended.

HEALTHY AND SAFE DELIVERY.

Customer writes: "The driven bees I had from you have turned out my best stocks this spring."

Also **FERTILE 1908 QUEENS, 3 - ea.,**

In Introducing Cage. Early inquiries recommended.

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	Usual Price. £ s. d.	Sale Price. £ s. d.
"Rymer" Honey Press.. ..	2 10 0	2 0 0
"W. B. C." Hives	1 3 6	17 6
"Rymer" Adapters..	2 0	1 4
Super-Clearers	2 0	1 6
Smokers	3 6	2 6
Smokers	2 9	2 0
Brood Frames 100	8 0	6 6
Shallow Frames 100	8 0	6 6
Brood Foundation .. .. lb.	2 3	1 9
Shallow-Frame Foundation lb.	2 4	1 10
Section Foundation .. .. lb.	2 6	1 10
Scrapers .. .. each	1 0	8
Spur-Embedders .. .. each	1 2	8
28-lb. Honey-Tins.. .. doz.	10 6	7 6
Queen-Excluders, 16 by 96 each	3 6	1 9
Queen-Excluders, 16 by 16 doz.	7 0	4 6
Queen-Excluders, 17 by 15 doz.	7 0	4 6
"W. B. C." Ends .. gross	3 0	1 6
Wire and Net Veils .. each	2 0	1 6
Black and White Veils each	1 6	1 0
Bottle Feeders .. .. each	1 3	doz. 10 0
Round Tin Feeders .. each	1 6	doz. 12 0
Round Tin Feeders, large each	2 6	1 6
Naphthaline .. ..box	1 0	8
Uncapping Knives .. each	2 0	1 3
Bottles, Screw-cap, cork wads, lb. .. .. .. gross	15 6	13 0

M. SHEPHERD,

478, Stockport Road, MANCHESTER.

R. STEELE, Wormit Works DUNDEE,

Sole Agent for CHAS. DADANT & SONS, of America, who are the largest Makers of Comb Foundation in the World.

The Foundation made by them is PERFECT and unequalled for purity, toughness, regularity, and transparency, and always gives satisfaction.
SAMPLE LB., in box, post paid, Brood **2/6** Super **3/-**; a 5 lb. box, Brood **10/6**; Super **13/4**.

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Complete with 10 Frames, 1 Crate of Sections, roof covered with Zinc, 12/6; 6 for £3 3s.
CATALOGUE FOR 1908 *FREE.*

Hives made to any design or in the flat a speciality. | Why buy wood from the timber-merchant when you can buy the Hive in the flat at same price?

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and each post brings us congratulations. Test it and prove for yourself.

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BEE URTT, MANUFACTURER, GLOUCESTER
FOR
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-APPLIANCES, &c.
ILLUSTRATED CATALOGUE FREE. **R**

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1-lb. size. one-gross lots **15/6**, two-gross lots **30/-**, including Tinned Steel Caps and Cork Wads. Large buyers write for prices.

The Celebrated No. 6 TRIANGLE HONEY JARS.
17/6 per gross, complete with Caps. ½ gross **9/6.**

FRUIT PRESERVING BOTTLES.
Send for special Fruit Bottle List, post free.

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Glass both sides. Our cases are used very largely by exhibitors of Comb Honey. Send for large List, post free.

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Bee Farm: FULBOURN, CAMBRIDGE.

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THE

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &C., AND W. BROUGHTON CARR

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

REGISTERED FOR TRANSMISSION AS A NEWSPAPER.] [ENTERED AT STATIONERS' HALL.

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Having just made a big contract for practically the whole output of a large firm of Bottle Manufacturers, I am able to offer 1lb. screw-top Jars with Caps and Cork Wads in—

1 gross crates	15/6	C. Pd. at	17/- gross.
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6 gross in 2 3-gross crates	13/6	„	15/- „
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These Bottles are specially packed for me to my instructions, and hence in future there will be few breakages. Catalogue Free.

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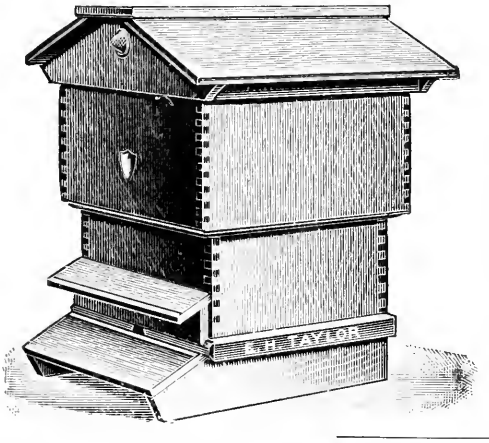

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Floor-board, Dovetailed Body Box with 1 in. thick Ends, Porch and Entrances, and ten Standard Frames; Dovetailed 9 in. Telescope Lift, which will tier-up two Racks of Sections; Roof, with Shallow Lift attached. Complete, **8/9**, or sent out in the Flat, with Frames, **8/3.**

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THE

British Bee Journal

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

Edited by T. W. COWAN, F.L.S., &c., and W. BROUGHTON CARR.

OFFICE: 8, Henrietta-street, Covent Garden, London, W.C.

Correspondence: Whom to Address.—All matters relating to the Literary Department, Associations, Shows, &c., should be addressed "Editors, *British Bee Journal*," and all business communications and matters relating to subscriptions and advertisements to be addressed to the "Manager," *B.B.J.* Office.

Subscriptions. — Annual Subscription, 6s. 6d., post free, *in advance*; single copies, 1d., or 1½d. post free. If a receipt is required by post, a stamped and addressed envelope must be sent, otherwise a printed receipt will be enclosed along with the paper.

THE DEPOSIT SYSTEM.

British Bee Journal & Bee-keepers' Record.

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1. Method.—When strangers are dealing together, the purchase-money of the articles is deposited at our office. We acknowledge receipt of the deposit to *both* parties, and hold the money until we are satisfied that the purchase is concluded. If a sale be effected, we remit to the seller the amount deposited, less a charge of 6d. and the expenses of Post Office Orders and postage, &c. Cash will be forwarded by Cheque, Post Office Order, or by Postal Order as preferred. If a sale or exchange be not completed, we return the amount deposited, after making the same deduction. By this means buyers and sellers are secured against fraud.

2. Deposits.—Postal Orders (drawn on General Post Office) and Cheques must be made payable to "MANAGER, B.B.J.," and crossed "London and Westminster Bank." The numbers of the Postal Orders should be kept by the sender. We cannot be responsible for any losses that may occur in transit.

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4. Bee Appliances.—In ordering, the time allowed for completing the order to be stated to us when sending cash. If maker accepts, we hold cash till transaction is satisfactorily completed, when the amount will be remitted, subject to conditions as in Clause 1

5. Bees and Queens.—These will be dealt with entirely by the parties concerned, so far as price, &c., go, and when the purchase is satisfactorily completed cash will be remitted as per Clause 1.

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7. Carriage.—The carriage of all goods, *except such as are sent by post*, is payable by the buyer, unless otherwise agreed. If any article sent on approval be returned, each party to the transaction must pay carriage one way.

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HONEY SECTION, SHOWN OCT. 21 to 24.

£400 in PRIZES and SPECIALS for WORK of Every Description. Competitors may reside at any distance. Prospectus, Post Free, Price Twopence.

HONEY SECTION, Open to All.

Entry Fee, 2/- per Entry for Honey.

Class. Honey gathered in 1907 or 1908.

526 One Super of Comb Flower Honey in bell glass, or combination wood and glass.
527 Three Sections of Flower Honey, 1 lb. size, in show case.
528 Three 1 lb. Glass Jars extracted or run Flower Honey.
529 One Super of Heather Honey in bell glass or combination wood and glass.
530 Three Sections of Heather Honey, 1 lb. size, in show case.
531 Three 1 lb. Glass Jars extracted or run Heather Honey.
532 Best display of Honey, 3 ft. square.
533 One Stock of Bees, with Queen, in an Observatory Hive.

Prizes in all above Classes :—
1st, Guinea Cup; 2nd, 7/-; 3rd, 4/-

Special Prize.—Handsome cup, presented by Mr. J. D. CRICHTON, to Exhibitor gaining most marks in Classes 525 to 533 inclusive.

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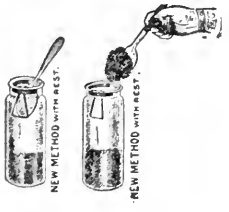

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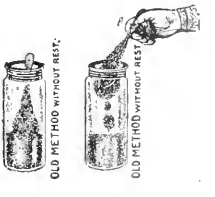

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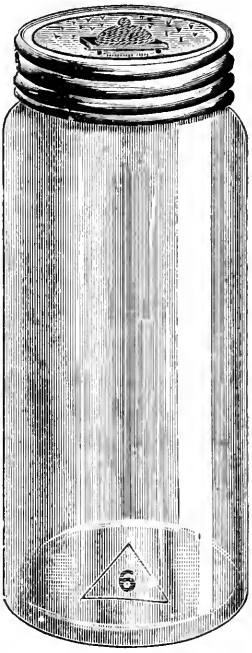

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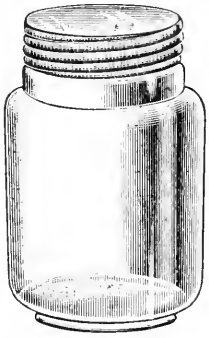

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NOTE.—Prize Winners of last year are eligible to compete.

Full particulars of both Exhibitions, together with the "Conditions and Regulations," will be sent post free on application to H. S. ROGERS, Secretary, Palmerston House, Old Broad-street, London, E.C.

SPECIAL NOTICE.

In order to induce Bee-keepers to compete for the liberal prizes offered, the entry fee has been fixed at One Shilling in each class.

Editorial, Notices, &c.

FOUL BROOD ACT FOR IRELAND.

As promised in our issue of the 6th inst., we take the earliest opportunity of placing before readers the full text of the Bee Pest Prevention (Ireland) Act, which, having passed both Houses of Parliament and received the Royal Assent, is now the law in Ireland, and will come into operation on January 1 next year. Bee-keepers on this side of the Channel will, therefore, have the opportunity of carefully studying the Act in advance and judging its effect on the bee-industry of the sister island. There will also be every chance of comparing it with the Bill formulated by the British Bee-keepers' Association some few years ago, which failed to make headway in this country, and, although we shall probably have some criticism on the measure from readers, it will in the meantime, be of considerable advantage for the bee community on this side to be able to see its effect on the industry as a whole, in advance of any future action it may be proposed to take with regard to its introduction here. That the Act may be helpful in the work of exterminating foul brood goes without saying, and its introduction in a country where bee-keepers are said to be of one mind in favour will be advantageous in gauging the chances of its being applied to that part of the kingdom where there is less unanimity with regard to compulsory powers.

BEE PEST PREVENTION (IRELAND) ACT, 1908.
(8 EDW. 7. CH. 34.)

An Act to prevent the spread of Bee Pest or Foul Brood in Ireland (*1st August*, 1908).

Be it enacted by the King's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

1.—(1) If any person keeping or having charge of bees becomes aware that the bees, or any of them, are affected with the disease known as bee pest or foul brood, he shall forthwith give notice of that fact to the local authority of the district in which the bees are kept.

(2) If any person required to give notice under this section fails to give notice forthwith, he shall be guilty of an offence under this Act, and shall be liable, on summary conviction, to a penalty not exceeding five pounds.

2.—(1) Any officer of the Department of Agriculture and Technical Instruction for Ireland (in this Act referred to as "the Department") charged with agricultural duties and authorised in writing in that behalf by the Department, and, within the district of any local authority, any person authorised in writing in that behalf by the local authority, shall have power to enter at all reasonable times any premises where bees are kept, and to inspect any bees and articles and appliances used in connection with bee-keeping.

(2) If any person refuses to allow any such officer or authorised person to enter any premises which he is entitled to enter under this section, or obstructs or impedes him in the execution of his duty, he shall be guilty of an offence under this Act, and shall be liable, on summary conviction, to a penalty not exceeding ten pounds.

3.—(1) The Department, and, within the district of any local authority, the local authority, may, if they think fit, cause to be destroyed any bees and articles and appliances used in connection with bee-keeping which are infected with bee pest or foul brood, or suspected of being so infected.

(2) For the purposes of this section, the Department or the local authority may, if they think fit, serve a notice in writing upon the person keeping or having charge of any such bees, articles, or appliances, requiring him to destroy the same within the period specified in the notice; and, if any such person upon whom a notice is served fails to destroy the bees, articles, and appliances mentioned in the notice within the period therein specified, he shall be guilty of an offence under this Act and shall be liable, on summary conviction, to a penalty not exceeding ten pounds.

4.—The Department may at any time, if they think fit, upon any evidence satisfactory to them, by order, declare any area to be an area infected with bee pest or foul brood, and may cause to be destroyed any bees and articles and appliances used in connection with bee-keeping within that area; and the provisions of the last preceding section relative to notices, including penal provisions, shall apply in the case of every person keeping or having charge of any bees or articles or appliances used in connection with bee-keeping within that area.

5.—Any person who knowingly removes from his premises, or sells or disposes of to any other person, or imports into any district, any bees infected with bee pest or foul brood, or any article or appliance used in connection with bee-keeping and infected with that disease, shall be guilty of an offence under this Act, and shall be liable on summary conviction to a penalty not exceeding, for the first offence, five pounds, and for the second or any subsequent offence, ten pounds.

6.—(1) Subject to the provisions of this section, compensation may be paid to the owner of any bees, articles, or appliances destroyed under this Act, if the Department, with the consent of the local authority of the district within which the bees, articles, or appliances were kept, so directs, and the compensation shall be payable by such local authority accordingly.

(2) The amount of the compensation shall be determined in accordance with a scale to be prescribed by the Department, and shall in no case exceed one half of the value of the bees, articles, and appliances immediately before their destruction.

(3) The consent of the local authority shall be signified by a resolution of the authority consenting generally to the payment of compensation, in accordance with the provisions of this section, in every case to which the section applies.

7.—(1) The Department may, by order, prohibit the keeping of bees for such period as they think fit upon any premises upon which any bees, articles, or appliances have been destroyed under this Act.

(2) Any person keeping bees contrary to an order made by the Department under this section shall be guilty of an offence under this Act, and shall be liable, on summary conviction, to a penalty not exceeding ten pounds.

8.—The Department may make regulations—

(*a*) With respect to the manner in which notices are to be given under this Act;

(*b*) With respect to the method of cleaning, disinfection, or the destruction of bees, articles, and appliances under this Act, and the making and determination of claims for compensation; and

(*c*) Generally for the purpose of carrying this Act into effect.

Section 1 of the Rules Publication Act, 1893, shall not apply to any regulations made in pursuance of this section.

9.—A local authority may, with the consent of the Department, appoint one or more officers for the purpose of the execution of this Act having such qualifications and upon such terms as to remuneration and otherwise as the Department approve.

10.—(1) The local authority for the purposes of this Act shall—

(*a*) as respects the rural districts of any administrative county, be the county council;

(*b*) as respects an urban district or county borough, be the council of the district or borough.

(2) The expenses incurred by or on behalf of a local authority in the execution of this Act, including compensation, shall be defrayed in the case of the council of a county other than a county borough out of the funds at the disposal of the council for the purposes of agriculture and other rural industries, and, in the case of the council of an urban district or county borough, out of any rate or fund applicable to the purposes of the Public Health (Ireland) Acts, 1878 to 1907, as if incurred for those purposes.

11.—The powers and duties of the council of every county other than a county borough under this Act shall be exercised and discharged by and through the committee appointed by the council for the purposes of Part I. of the Agriculture and Technical Instruction (Ireland) Act, 1899.

12.—(1) Any offence under this Act may be prosecuted, and any penalty recoverable under this Act may be recovered in a summary manner.

(2) A prosecution for an offence under this Act may be instituted, and a penalty recoverable under this Act may be recovered, either by the Department or the local authority.

(3) All penalties recovered under this Act shall, notwithstanding any provision in any other Act, be paid to the body by whom the prosecution is instituted under this section, and shall be applied in aid of the expenses of that body in the execution of this Act.

13.—This Act shall apply to Ireland only, and may be cited as the Bee Pest Prevention (Ireland) Act, 1908, and shall come into operation on the first day of January one thousand nine hundred and nine.

STAFFORDSHIRE B.K.A.

SHOW AT BURSLEM.

The annual show of the S.B.K.A. was held at Burslem, in conjunction with the Staffs Agricultural Society's meeting, on July 22 and 23. In point of number of entries the exhibition showed distinct improvement. It was estimated that quite a ton of honey was sent in for exhibition, and the quality was reported to be of a very high standard. Especially was this the case in the open classes, where the judges had great difficulty in making the awards. The gold medal given for the best display of 100 lb. of honey was awarded to Mr. H. C. Barlow, Stoke-on-Trent, and presented to him during the afternoon by Lady Cooper, of Shenstone Court. In making the presentation, her ladyship spoke of the interest she took in bee-culture, and said that she did everything in her power to encourage people to keep bees. The winner of the gold medal, she pointed out, was a gardener, and she

wished all gardeners could be prevailed upon to follow his example and qualify themselves for the expert's certificate. The exhibition was universally regarded as a most successful one, and much of the credit is due to Mr. Tinsley, hon. secretary of the association, who has worked hard in furthering the interests of the association since he took office.

Messrs. E. Clowes, J. R. Critchlow, J. Kendrick, and E. W. H. Knight, all of Newcastle, Staffs, judged the bee-exhibits and made the following awards:—

Collection of Hives and Appliances.—1st, George Rose, Liverpool; 2nd, E. H. Taylor, Welwyn, Herts.

Honey in any form, not exceeding 100 lb.—1st, H. C. Barlow, Stoke-on-Trent.

Twelve 1-lb. Sections.—1st, G. Evans, Newport; 2nd, Walter Marchant, Shifnal; 3rd, H. C. Barlow; 4th, Sydney Durose, Burton-on-Trent; c., W. H. Bird, Burton-on-Trent.

Twelve 1-lb. Jars Light Extracted Honey.—1st, H. C. Barlow; 2nd, T. Tinsley, Norton Bridge; 3rd, Mrs. Croome, Lichfield; 4th, T. B. Elly, Penkridge; h.c., S. Durose.

Twelve 1-lb. Jars Extracted Medium or Dark Honey.—1st, H. C. Barlow; 2nd, W. H. Bird; 3rd, G. Evans.

Six 1-lb. Jars Granulated Honey.—1st, Thomas Tinsley; 2nd, S. Durose; 3rd, W. H. Bird.

Three Frames of Comb Honey for Extracting.—1st, G. Evans; 2nd, H. C. Barlow.

Observatory-hive.—1st, H. C. Barlow.

Beeswax.—1st, W. H. Bird; 2nd, Walter Marchant; 3rd, Joseph Price, Old Hill; h.c., Elijah Stonier, Lower Leigh.

Twelve 1-lb. Jars Extracted Honey.—1st, T. B. Elly; 2nd, John Jeffery, Idierocks Gardens, Stone; 3rd, Miss E. Baggeley, Swynnerton Grange, Stone.

COTTAGERS' CLASSES.

Twelve 1-lb. Sections.—1st, G. Evans.

Twelve 1-lb. Jars Extracted Honey.—1st, Mrs. Croome; 2nd, Joseph Price; 3rd, G. Evans.

OPEN CLASSES.

Twelve 1-lb. Jars Extracted Honey.—1st, R. Morgan, Cowbridge, Glamorgan; 2nd, H. C. Barlow; 3rd, C. Lodge, High Easter, Essex; 4th, S. Cartwright, Shawbury, Shrewsbury; 5th, S. G. S. Leigh, Broughton, Hants.

Single 1-lb. Jar Extracted Honey.—1st, H. C. Barlow; 2nd, C. Lodge; 3rd, S. Cartwright.

Single 1-lb. Section.—1st, C. Lodge; 2nd, S. G. S. Leigh; 3rd, W. Patchett, Caistor, Lincs.—JOSEPH TINSLEY, Hon. Sec.

HENBURY AND DISTRICT B.K.A.

The tenth annual show of the above association was held at Henbury, near Bristol, on July 29, in connection with the Horticultural Society's exhibition. The weather being fine, a large number of visitors attended the show, the honey sent being well patronised.

The exhibits in the open classes were very good, the extracted honey being of excellent quality. Unfortunately the best sections in the show were disqualified for overlacing.

The competition for the silver and bronze medals, open to members only, was very keen between Mr. Thos. George and Mr. H. Atwell, there being only one point between them.

Messrs. J. W. Brewer and L. E. Snelgrove judged the exhibits, and made the following awards:—

OPEN CLASSES.

Display of Honey.—1st, Thos. George. (Only one entry.)

Twelve 1-lb. Sections.—1st, C. W. Dyer; 2nd, Miss M. Wilson; 3rd, James Coates.

Twelve 1-lb. Jars Extracted Honey.—1st, Thos. George; 2nd, G. F. West; 3rd, Charles Camery; v.h.c., C. W. Dyer.

Single 1-lb. Section.—1st, T. G. Hillier; 2nd, H. W. Saunders; 3rd, C. W. Dyer.

Single 1-lb. Jar Extracted Honey.—1st, H. W. Saunders; 2nd, S. G. S. Leigh; 3rd, R. W. Lloyd; v.h.c., T. G. Hillier; h.c., W. Vowles.

Beeswax.—1st, Thos. George; 2nd, Charles Camery; 3rd, W. Vowles.

MEMBERS' CLASSES.

Twelve 1-lb. Sections.—1st, W. H. Pretty; 2nd, F. E. May; no 3rd; c., Miss V. Waller.

Twelve 1-lb. Jars Extracted Honey.—1st, W. Vowles; 2nd, Geo. Robbins; 3rd, Thos. George; c., W. H. Pretty.

Six 1-lb. Sections.—1st, W. H. Pretty; 2nd, H. Atwell; 3rd, Miss V. Waller.

Six 1-lb. Jars Extracted Honey.—1st, Geo. Robbins; 2nd, W. H. Pretty; 3rd, Thos. George; h.c., W. Vowles.

Three Shallow-frames of Comb Honey.—1st, H. Atwell; 2nd, W. H. Pretty; 3rd, W. Vowles; c., T. George.

Three 1-lb. Sections.—1st, F. E. May; 2nd, W. H. Pretty; 3rd, H. Atwell.

Three 1-lb. Jars Extracted Honey.—1st, H. Atwell; 2nd, Geo. Robbins; 3rd, W. H. Pretty; c., T. George.

COTTAGERS' CLASSES.

Three 1-lb. Sections.—1st, Geo. Robbins; 2nd, H. Atwell.

Three 1-lb. Jars Extracted Honey.—1st, W. Vowles; 2nd, H. Atwell; 3rd, G. Robbins.

NOVICE CLASSES.

Three 1-*lb. Sections.*—1st, Geo. Robbins; 2nd, H. Atwell.

Three 1-*lb. Jars Extracted Honey.*—1st, H. Atwell; 2nd, Geo. Robbins.—F. E. MAY, Hon. Sec.

NORTH NORFOLK B.K.A.

ANNUAL SHOW.

The above association held its annual show on Monday, August 3, in connection with the Melton Constable Horticultural Society. As in former years, the show was held in Melton Constable Park (by permission of Lord Hastings), and attracted large numbers of people, who took keen interest in the demonstrations in the bee-tent, where periodical lectures were given by Mr. C. J. Cooke, the hon. secretary. Over 800 lb. of first-class honey was staged in the several classes, the quality being much above the average of recent years. A feature of the show was the competition for a challenge cup, value five guineas (confined to members), which was won by Mr. W. F. Fake with a fine sample of extracted honey. Dr. T. S. Elliot acted as judge, and made the following awards:—

Twelve 1-*lb. Sections* (14 entries).—1st, W. F. Fake, Great Massingham; 2nd, E. Robb, Outwell; 3rd, W. J. Norman, Harpley.

Twelve 1-*lb. Jars Extracted Honey* (19 entries).—1st, W. F. Fake; 2nd, W. J. Norman; 3rd, J. W. Softley, Massingham.

Six 1-*lb. Sections* (13 entries).—1st, F. Chapman, Edgefield; 2nd, W. Nobes, Twyford; 3rd, J. Mayer, Hemblington.

Six 1-*lb. Jars Extracted Honey* (12 entries).—1st, F. Chapman; 2nd, H. C. Holsey; 3rd, J. W. Softley.

Three 1-*lb. Sections and Three* 1-*lb. Jars Extracted Honey* (8 entries).—1st, J. Smalls; 2nd, G. Chadwick, jun., Guist; 3rd, H. C. Holsey.

Beeswax (9 entries).—1st, Rev. A. Downes-Shaw, Kettlestone Rectory, Fakenham; 2nd, H. W. Saunders; 3rd, — Nicholls, Shipton.

OPEN CLASSES.

Twelve 1-*lb. Sections* (7 entries).—1st, W. F. Fake; 2nd, H. W. Saunders; 3rd, E. Robb.

Twelve 1-*lb. Jars Extracted Honey* (6 entries).—1st, H. W. Saunders; 2nd, W. F. Fake; 3rd, W. J. Norman.

Single 1-*lb. Jar Extracted Honey* (20 entries).—1st, H. W. Saunders; 2nd, W. J. Norman; 3rd, W. F. Fake; 4th, S. G. S. Leigh.

Single 1-*lb. Section* (20 entries).—1st, W. F. Fake; 2nd, Mrs. Saunders; 3rd, H. W. Saunders; 4th, E. Robb.

Challenge Cup.—W. F. Fake.

Dr. Elliot also conducted an examination for the third-class expert's certificate of the B.B.K.A.—C. J. COOKE, Hon. Sec.

KENT HONEY SHOW.

The seventh annual exhibition of honey and bee-products was held in conjunction with the horticultural show at Wye on August 12, and was an unqualified success, the entries being more than double those of last year. Mr. W. F. Reid, who judged the exhibits, spoke very highly of the display in the bee-department and the quality of the honey staged. The following were his awards:—

Six 1-*lb. Sections and Six* 1-*lb. Jars Extracted Honey.*—1st, E. R. Nash, Smarden; 2nd, S. Burden, Headcorn; 3rd, A. Lepper, Wye; r. and h.c., A. J. E. Baker, Betteshanger; h.c., Rev. M. W. B. Osmaston, Goodnestone.

Six 1-*lb. Sections.*—1st, E. R. Nash; 2nd, W. J. Moody-Smith, Pluckley; 3rd, S. Burden, Headcorn; 4th, Rev. H. R. N. Ellison, Hothfield; r. and h.c., S. Darlington, Charing.

Two Standard or Shallow Frames Comb Honey.—1st, E. R. Nash; 2nd, W. J. Moody-Smith, Pluckley; 3rd, Rev. H. R. N. Ellison; r. and h.c., F. E. Green, Northbourne; h.c., S. Burden, Headcorn.

Six 1-*lb. Jars Light Extracted Honey.*—1st, A. Lepper; 2nd, W. J. Moody-Smith; 3rd, F. E. Green; r. and h.c., S. Burden; h.c., E. R. Nash.

Six 1-*lb. Jars Medium-coloured Extracted Honey.*—1st, Mrs. M. E. Cooper, Stone Greenhithe; 2nd, J. C. Roberts, Maidstone; 3rd, Miss Whitestone, Frittenden; 4th, H. Dobell, Marden; r. and h.c., W. G. Martin, Green Street Green; h.c., A. E. Allchin, Kennington.

Six 1-*lb. Jars Dark Extracted Honey.*—1st, Mrs. M. E. Cooper, Stone Greenhithe; 2nd, E. R. Nash; 3rd, J. Chittenden, Wye; 4th, A. Lepper.

Three 1-*lb. Sections and Three* 1-*lb. Jars Extracted Honey.*—1st, E. R. Nash; 2nd, H. W. Tritton, Eastry; 3rd, S. Darlington; r., Miss M. Grieve, Stanford; h.c., A. Lepper; h.c., F. E. Green.

Beeswax.—1st, Rev. H. R. N. Ellison; 2nd, E. R. Nash; 3rd, W. J. Moody-Smith; h.c., S. Darlington.

Mead.—1st, Miss S. Amos, Wye; 2nd, A. E. Allchin, Kennington; h.c., A. Lepper.

Bee-candy.—1st, J. Garratt, Meopham; 2nd, Mrs. M. E. Cooper; r. and h.c., S. Darlington.

Single 1-*lb. Jar Granulated Honey.*—1st, S. Darlington; 2nd, Mrs. Seadon, Bromley; r. and h.c., E. H. Pankhurst.

Honey-cake.—1st, A. Lepper; 2nd, J. Goodsell, Sissinghurst; 3rd, F. E. Green; r. and h.c., Rev. M. W. B. Osmaston; h.c., Mrs. H. Wilson, Chartham.

Bee-flowers.—1st, W. Hills, Kennington; 2nd, Mrs. Hall, Wye; r. and h.c., A. E. Allchin; h.c., J. Goodsell.

Three 1-*lb. Sections.*—1st, A. Lepper; 2nd, Mrs. G. Hooker, Headcorn; 3rd, H. Dobell; r., E. H. Pankhurst; h.c., J. Goodsell.

LOCAL CLASSES.

Two 1-*lb. Jars Extracted Honey.*—1st, J. Chittenden; 2nd, A. Lepper; 3rd, W. Brown, Westwell; r., T. Dodd, Wye; h.c., H. Head.

OPEN CLASSES.

Trophy of Bee-products.—1st, J. Pearman, Derby; 2nd, Mrs. Hall, Wye; 3rd, T. Head, Canterbury.

Single 1-*lb. Jar Light Extracted Honey.*—1st, R. W. Lloyd, Thetford, Norfolk; 2nd, A. W. Weatherhogg, Willoughton, Lincs; 3rd, T. G. Hillier, Hurstbourne Tarrant, Hants; r., J. Pearman; h.c., W. Fake, Great Massingham, Norfolk.

Single 1-*lb. Jar Medium or Dark Extracted Honey.*—1st, E. H. Pankhurst; 2nd, Rev. H. R. N. Ellison; 3rd, T. Head; r. and h.c., W. J. Moody-Smith; h.c., W. Cook, Wye.

Single 1-*lb. Section.*—1st, A. W. Weatherhogg; 2nd, J. Pearman; 3rd, H. W. Saunders, Thetford, Norfolk; r. and h.c., T. G. Hillier; h.c., S. G. S. Leigh, Broughton, Hants.

Beginner's Outfit.—1st, Southern Bee-Supply Company, Hellingly, Sussex; 2nd, T. Head; r. and h.c., Mrs. Seadon; h.c., E. H. Taylor, Welwyn, Herts.

Mr. Jesse Garratt gave demonstrations with live bees and lectures during the afternoon in the bee-tent.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

THE SEASON UP TO DATE.

[7194.] Saturday and Sunday (August 15 and 16) were glorious days. The weather was superb, the heather bloom profuse, the hills close by being one sheet of magnificent purple, scenting the air even afar with an odour sweet as a honeycomb. Old Sol shone out in a clear, cloudless sky from early morn till dewy eve. An eight-hour day was scorned by the bees, ten hours was too short for most, and many toiled on the full round of the clock. The busy hum was one continuous melody all day long, and it was indeed a joy to sit "among the bees" listening to the pleasant sound, and fully appreciating the patterns of industry plying their most delightful task. The rush and hustle were at times marvellous, and the constant stream of bees, outgoing and incoming, required the full stretch of entrance the whole front of the hive. These two days literally glutted the frames where insufficient space was given overhead for the bees to fill up. Happy the apiarist who had too much rather than too little super area for the workers to expend their surplus energy in building and storing their surplus honey. Sections were drawn out and filled with marvellous rapidity. It is rare to see such magnificent work overtaken in so short a time.

The summer all over has been a good one, and if so many colonies had not succumbed as an effect of last season's inclement rigours, this would have been beyond precedent—I think a record season. So many hives were, however, empty, so many more were under average, and so many were fit to be ranked only as weaklings, that the sum total will not bulk so very greatly. Still, the leading lots have done glorious work, the second class have now almost fallen into line, and the third class have attained to a higher rank. Personally, I have again to record that I had *no* swarming. I had just one, but it was an English swarm obtained well on in June. It is not considered good management to allow virgin swarms. Still, this one came out in spite of management. It had two racks of sections very well forward, all packed with bees, and I had put on a third overhead when next day it swarmed. Leaving the two side frames *in situ*, I placed the others, three and four, in new hives, filling up the vacant space with three frames of empty comb and four frames with starters. On this I returned the swarm, plus flying bees. They are now fast filling the third crate. The swarm being a very large one, I shook about 1 lb. of bees in front of each nucleus, and these, with the hatched-out bees, now form rather decent colonies, so that I have *three out of one*, and hope to have three full crates at the end of the season. Several bee-keepers in the county took sixty-three, and a few even eighty-four, sections off their best hives on the second day of August. I regret to say I was not one of them, but I have done it now. The clover honey is an excellent sample—one of the best I have ever seen. Some say the price is low, but I have as yet obtained 10d. per lb. for it, and I hear of some being sold at 1s. Yet I know large quantities have been disposed of at only 8d.

Top-bars.—In a gathering of some forty bee-keepers this subject was recently discussed, and fourteen rather favoured thick top-bars, for the reason that they thought these would not sag, and they believed their use would do away with brace-combs.

The interest of the bees was wholly eliminated from consideration, while in regard to their theoretical beneficial points they had no established data to work upon. Seventeen members of the gathering either wanted frames only so thick as to overcome sagging, or voted out and out for the ordinary thin top-bars. They based their opposition to thick bars on the following:—1. They take up valuable space in the hive. 2. They cost more. 3. They are an unnecessary hindrance. 4. Bees winter better on thin top-bars, because they can more readily pass over from one to another to shift the winter cluster. 5. There will be with the thin far fewer burs and brace-combs. 6. Intercommunication is far more free and uninterrupted with thin than with thick bars. The bugbear of sagging is only a chimera, because if several hundreds of our standard ⅜ in. are examined, the percentage of defective top-bars is almost infinitesimal, unless where the wood has been faulty, or some patent cause has brought it about. This is decidedly my personal experience. Another point sometimes brought up against thin top-bars is that wax is sometimes brought up from below, and the fair, white surface of the sections partly disfigured with a dark objectionable sealing. This, I think, happens at times, but it is really a negligible consideration.

Bees in Japan and Siberia.—It is always interesting to learn how the pursuit is carried on in other lands. In Japan the hives are of a very primitive order, consisting of wooden boxes with a movable front, by means of which as much of the combs, brood, and honey as is desired can be cut out by the owner. These hives are collected and placed in specially-constructed straw houses or sheds during the winter, and, indeed, during the summer. The natives display little or no skill in the management of their bees, but this is now fast becoming a thing of the past, as modern methods and modern hives are being rapidly developed. The native race of bees is very docile, and they can be manipulated without smoke or veil.

The summers of Siberia are very short, and hence it becomes important to improve each shining hour. Powerful colonies are therefore a necessity. Several swarms are joined together, and sifted through a special sieve-like appliance, which clears out all queens and drones. The aim of the apiarist is to have about 15 lb. of bees working in one hive. After mixing up the bees, they are deposited for some time in a cellar, as otherwise such a mass of bees would be likely to abscond. A colony of this strength will generally store about 100 lb. of surplus. The pursuit is mostly in the hands of specialists, who may possess from 500 to 1,000 hives. Basswood, or lime trees, is the chief source of supply, and the period of bloom is a lengthy one.—**D. M. M.**, Banff.

THE ISLE OF WIGHT BEE-FUND.

BEES SENT DOING WELL.

[7195.] Readers of the B.B.J. and contributors to the Isle of Wight Bee-Fund will be interested to learn that reports to hand from the island state that every stock and swarm sent in connection with the above fund is so far doing well. In one case it was thought at first that there was a recurrence of the disease, but the symptoms passed off and the stock is now all right. I may say that we have had disappointments over swarms ordered and promised, just as so many ordinary buyers have, consequently some of the swarms ordered have failed to put in an appearance, and driven bees are being sent instead.

Mr. H. M. Cooper writes to say that, compared with swarms, a 4-lb. or 5-lb. lot of driven bees does well in the island, and if sent before the end of August has a good chance of forming a strong colony. Messrs. Owen Browning, W. Woods, and S. G. S. Leigh have each promised a lot of driven bees by the end of August, and if any B.B.J. readers do not know what to do with a lot of driven bees, I can give them a suitable address in the island, or they can forward them here and I will send them on. It will no doubt interest your readers to know that, outside the scope of the fund in question, former bee-keepers, seeing that the bees sent are doing well, are starting again all over the island, so that we have hopes that bee-keeping will again flourish in that favoured part of the kingdom.—John Silver, Croydon Grove, Croydon, August 17.

WAX-RENDERING.

[7196.] I have been much interested in the correspondence about wax-rendering lately appearing in the B.B.J. I have had a good many old combs to render, both from frames and skeps, and so far I have been unable by any means to extract anything like all the wax from old combs, but I must differ from the conclusions drawn in the American pamphlet reviewed on page 305, having found the solar extractor most advantageous in the case of these old combs, giving by far a better quality of wax with a minimum of trouble. Indeed, I question whether the wax obtained by the method explained by your correspondent "D. V., Dunaskin" (7185, page 323), in your last issue would pay for the trouble and time it would appear to take; but I should be

glad if "D. V." and others experienced in the matter would write again and say what amount of wax they obtain on an average—say per ten combs or per skep—by the various methods they have adopted. Meanwhile, I am experimenting quantitatively in the same direction, and hope later on to write you again, giving the results. In this way we may obtain figures which will be of considerable use as a guide to the best methods of rendering wax. Of course, "cappings" and new comb are easily and completely rendered by almost any method. What we want to know more of is the way to treat old and pollen-clogged combs to greatest advantage.—A. ARNOLD KING, Silverhill, Hastings, August 15.

BIRDS, BEES, AND FRUIT.

[7197.] A "flycatcher" has nested within a few yards of two of my hives this year, and I do not think it will make much difference to my take of honey. I expect, and hope, that the majority of bee-keepers would rather lose a few bees than shoot a flycatcher that had a nest of young ones. I also see that one of your correspondents (7176, page 306) thinks that the fact of hives being near fruit trees keeps away the birds. For myself, I may say there is a strawberry-bed in my garden within three yards of the hives mentioned above. It was well netted, but the birds tried all they could to get in, and in one or two instances succeeded. I suppose the season has been too dry, but to one whose first experience of bee-keeping was the poor one of last year the difference seems very great.—ALFRED STRATTON, Marlborough, Wilts.

Bee Shows to Come.

August 22, at Elworth, Sandbach.—In connection with the Elworth Athletic Club and Horticultural Society's Show. **Entries closed.**

August 26, at Chester (Cheshire Agricultural Society's Show). — Bee and Honey Department, under management of the C.B.K.A. **Entries closed.**

August 26 and 27, at Solihull, Warwickshire.—Show of Honey, Hives, and Appliances, in connection with the Warwickshire Agricultural Society. Schedules from J. N. Bower, Hon. Sec., Knowle, Warwickshire.

September 3, 4, and 5, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-six Classes (nine open to all). Increased Prizes and Medals. Schedules from F. B. White, Secretary, Marden House, Redhill, Surrey. **Entries close August 22.**

September 5, at Bramhall. — In connection with Bramhall Horticultural Show. Honey Section under management of C.B.K.A. Liberal prize list for Honey, Extracted or Sections, and Wax. Silver and bronze medals for Local Class. Schedules of Mr. J. Sibson, Kitts, Moss Lane, Bramhall, Stockport. **Entries close August 31.**

September 5 to 12, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Trades' Sixteenth Annual Exhibition and Market. (See large advertisement on page iv.) **Open to all British Bee-keepers.** Entry fee in each class 1s. Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 9, at Wilmslow, Cheshire.—In connection with Adlington and East Cheshire Agricultural Society. Honey Section under the management of the C.B.K.A. Bronze medal for District Class. Liberal Prizes. Open and District Classes. Schedules of Mr. J. Sibson, Bramhall, Stockport. **Entries close August 31.**

September 12, at Dumfries.—Annual Show of South of Scotland B.K.A. Five Open Classes: 3 Bottles, 20s., 12s., and 6s.; 3 Sections, 15s., 10s., and 5s. (entry 2s.); 1 Bottle, also 1 Section, 5s., 3s., and 2s. (entry free, and exhibits retained unless otherwise agreed upon); Beeswax, 5s., 3s., and 2s. (entry 6d.). Thirteen classes for members. Schedules from Q. Aird, Hardgate School House, Dalbeattie, N.B. **Entries close September 5.**

September 14, at Conway, N. Wales.—Annual Honey Show, in connection with the Conway Honey Fair. Open and Local Classes. Schedules from J. Hughes, Town Hall, Conway. **Entries close September 7.**

September 19 to 26, at the Agricultural Hall, London.—Honey Show in connection with the Sixteenth Annual Exhibition and Market of the Grocery and Kindred Trades. (See large advertisement on page iv.) Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.** Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 23, at Altrincham.—Honey Show in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. Classes for Trophy of Honey, for Best Hive, Observatory Hive with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester, for Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low entrance fees. Schedules from Mr. J. Herbert Hall, 2, Dunham Road, Altrincham. **Entries close September 5.**

October 6 to 9, at the Agricultural Hall, London.—Show of Honey and Bee Produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for Honey &c. Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover Square, London, W. **Entries close** September 7.

October 21 to 24, at Waverley Market, Edinburgh.—Honey show in connection with the Twelfth Annual Edinburgh and Midlothian Industrial Exhibition. All open classes. Beautifully illustrated prospectus, price 2d., from A. Hutchinson, 15, Leith-street, Edinburgh. **Entries close September 30.** (See advt, page ii.).

USEFUL HINTS.

Referring to an editorial note in the current number of *Gleanings*, we are glad to observe that Mr. E. R. Root is in agreement with ourselves with regard to using cane sugar, in preference to that made from beet, for bee-food in the Roots' extensive apiary at Medina:—

CANE OR BEET SUGAR—WHICH?

We notice by the *American Grocer* that the Kansas Board of Health, which has the enforcement of the pure-food laws of that State, says that grocers who sell beet sugar for cane will be subject to prosecution. We wish this ruling might be general all through the United States, as

it is impossible now to know what one is buying—cane or beet sugar. We always try to get cane exclusively for feeding; but the large sugar-refiners will make no statement as to what they are sending, other than that it is granulated sugar.

It will be also a useful hint to some B.B.J. readers to take note of what Mr. Root remarks about correspondents sending combs suspected of foul brood for diagnosis. He says:—

SENDING DISEASED BROOD BY POST.

We desire to caution our readers again when sending samples of suspected diseased brood to this office for diagnosis to wrap the specimen in paraffin paper, not in cotton batting, and put it in a stout wooden or tin box. Mark on the outside of the package the full name and address of the sender, and in the same mail be sure to send a letter giving full particulars. Specimens not having the mark and name of the sender will be burned without examination, and likewise all other specimens loosely or carelessly packed.

Another thing, do not use perfumery-boxes, spice-boxes, or, last of all, tobacco or cigar boxes, to send brood in, because the odour so scents up the brood that satisfactory diagnosis is made difficult, if not impossible.

We are perfectly willing to furnish information to our subscribers, but they in turn must observe proper precautions.

Queries and Replies.

[3770.] *Dealing with Vicious Bees.*—I am a subscriber to the B.B.J. Can you help me with your advice? I shall be grateful if you can and will. Last year I began bee-keeping, with not much previous experience. I am fond of bees, and not afraid of them. I have an experienced neighbour who gave me at times practical help as well as advice. I took three swarms unaided and unprotected, and hived two of them in frame-hives, also unaided and unprotected. I searched one of my hives, and cut out queen-cells, unaided and unprotected, though a little later I was advised that it was well to put on a veil in such operations, as a sting on the face or eye might disconcert the operator. My operations this year have been hiving a swarm and putting on and taking off various supers. This I performed with a veil, and no other protection. All went well till about three weeks ago, when one of my stocks became suddenly hostile. The bees came out in large numbers, covered my hands with stings, and forced me to desist. The next evening I put on gloves for the first time, and effected my purpose, but in the teeth of an organised attack. My gloves were covered with stings. The bees in three of my five hives now treat me in this fashion. Hardly do they perceive me to be at work when they pour out of the hives and attack me. The other two hives have had, as yet, no opportunity of showing whether they are equally disaffected. I need not say that all the pleasure of bee-keeping is gone. A few stings I do not mind—they never worry me—but a regular "set-to" every time I open a hive is another matter. No doubt I am clumsy, bungling, slow, and defective in many ways, but not more so than last year. The hives, too, are rather close to the house, and the bees may be annoyed at that. What can be done to get on our old friendly terms again; or is it impossible to expect that this summer? Is too frequent or too prolonged use of the carbolic cloth likely to irritate? I should add that I propose to move the hives in winter as far away from the house as possible. Any advice you can give me will be very welcome. Thanking you in anticipation, I enclose card.—AMATEUR, Felsted.

REPLY.—It is very annoying when bees become suddenly hostile, but except with such races as the Syrian and Cyprian there is generally a good cause for it, although the operator may not notice it. It is well known that on a fine, calm day, when forage is plentiful and the bees very busily at work, operations can be performed without their showing any resentment, which at other times would easily rouse them to anger. There are also days on which the most expert bee-keeper will not disturb the bees. Too free use of the carbolic cloth also irritates them. We would proceed on the following plan: With the smoker blow a few puffs of smoke in at the entrance, then turn up the quilt at the back and blow in a few more puffs at the top; then put down the quilt, and allow the bees time to fill themselves with honey. After about half a minute, or a little more, blow in a little more smoke both at the entrance and at the top, and carefully turn up the quilt from the side, so as to expose the top of one frame at a time, and with a little smoke drive the bees down. They should be quiet by this time, and an occasional puff of smoke will keep them subdued. The carbolic cloth can be used afterwards, but it must not remain on too long at a time. Care must be taken that the smoke is not too hot, as this irritates bees. There is no reason why, with care and gentle treatment, the bees should not be friendly again. We had a similar case last summer with a friend's bees, from which we were asked to remove the supers. The gardener had charge of the smoker, and had not properly replenished it, consequently when he puffed at the bees, instead of smoke, fire came out, which so enraged them that they literally poured out of the hive. The gardener ran away, and we had to close up the hive the best way we could, but received between thirty and forty stings during the operation. For several days these bees would not allow anyone to come near them, but ultimately became quiet, and have shown no signs of bad temper since. If you leave the bees alone for a time, and then work very quietly and deliberately amongst them, taking care that they are well filled with honey before disturbing them, you should be able to manage them without gloves. Wear a veil by all means, but discard the gloves, as bees are much more liable to sting gloves than hands.

[3771.] *Bees Transferring Themselves from Skeps to Frame-hives.*—I beg to forward the following note *re* bees transferring themselves from skeps to frame-hives. I followed out minutely the instructions in new edition of "Guide Book," putting the skep on frames about the beginning of May immediately after the severe frost which we experienced towards the end of April. In five weeks or so, just about the beginning of the honey season here, the queen had transferred herself to the standard frames, and was laying in the centre frames; but on examining the hive last week she had unfortunately transferred herself back to the skep, so that in my case the operation has proved a failure. Unfortunately it is my strongest hive, and has been lost for the season,

and that means a big loss when I compare it with some of my other hives. You might please answer the following queries with regard to the above: 1. If I do not extract the honey now in the frames below, but put a rack of sections above the frames, will the bees make room for the queen laying by carrying the honey from the frames into the sections? Of course, I have put the queen below now, and put on sections above the frames, with the skep above the sections. 2. If I had put on a queen-excluder after getting the queen below about the middle of June, would the bees have been likely to start queen-cells in the skep above if it was a very strong colony? 3. If on finding queen-cells started I waited ten or eleven days after putting on the excluder-zinc, and then shifted the skep alone to another site in the apiary, would the bees in skep be likely to swarm when the virgin queen went out to meet the drone, or would they be too much reduced in numbers for them to do so by the flying bees transferring themselves to their old site? 4. In reply to Query 3754, which appeared in B.B.J. of July 30, in which a correspondent asks for an explanation of the "Alexander" system for prevention of swarming, you stated that the top hive above the standard frames (the one to be shifted to another site) was hopelessly queenless, and a queen-cell could be given to it. Please explain how it can be hopelessly queenless if there are eggs and brood for the bees to form queen-cells from at the time the excluder is put on. I send name for reference. —EUREKA, Kirriemuir, N.B., August 9.

REPLY.—1. If the honey is extracted from the frames of comb, we do not see what honey there would be to carry up "into the sections," even if the bees were so disposed; but we think it very unlikely that they would do more than clear up the dripping cells in order to prepare the combs for egg-laying. 2. No. If the bees were sufficiently numerous to cover the brood in skep and spare a full supply of comb-builders below, they would not start queen-cells in the skep. 3. No. 4. The bees would be "hopelessly queenless" because the brood in the parent hive was all sealed over when it was moved to its new position.

[3772.] *Transferring Bees to Boxes.*—I beg to thank you for your kind reply to my query in last week's JOURNAL, and am now writing to ask your advice on behalf of an old bee-keeper who lives in a tiny village a few miles from here. He has a very strong colony of bees in a dilapidated old cheese-box, and these he is anxious for me to drive for him this autumn. Their future home is a strong wooden box about 16 in. square and 13 in. high. He quite understands that it is impossible for driven bees so late in the season to build comb for themselves, and he wants me to fix some foundation in the box, and then hopes, with liberal feeding, to get them settled before winter. My difficulty is how to fix the foundation in the box, and I shall be most grateful if you can suggest any plan of doing so, and also if you think the bees will be able to draw out the foundation. My own idea is that it would be better to wait until next year, and after fixing a few strips of foundation in the box place it underneath the stock, and let the bees transfer themselves after the same manner as from a skep to a frame-hive. Would that plan answer, or what would be the best to do? He does not want to have them in a frame-hive, but says, "I would like 'ee to fix 'em in this box, miss, if you can manage it." A reply in this week's JOURNAL would very greatly oblige —HEATHER, Sidmouth, August 16.

REPLY.—The old bee-keeper in question will be well advised if he accepts your suggestion to defer transferring operations till next year, otherwise the chances are against his having any bees of the "strong stock" left alive in the box he now wishes them to occupy. We should also like to know why he desires to transfer the bees from their present home in cheese-box to another box with fixed combs, when with a little labour he could turn the box described into a movable-comb hive. Any handy man could knock off the bottom of the box and reduce its depth to 9 in.; then cut a rabbet in the front and back edges to take a frame with a top-bar 15½ in. long. This done, he could for a few pence buy as many standard frames as the box would accommodate and have a sensible hive with movable frames to work with in comfort and with profit. Try if you can convert him by showing the picture on page 7 of the "Guide Book."

[3773.] *"Fanning" Bees Secreting Wax.*—I am sending a bee which I thought might interest you if you have not seen one like it before. I had several like it in one of my hives. I first noticed them fanning air at the entrance. The very thick wax-plates quite distorted the bee. I should like to know if you have seen any bee like it before.—F. W. M., Ventnor, I.O.W.

REPLY.—Beyond the wax-plates being slightly larger than usual, there is nothing uncommon in the appearance of the bee sent, and the fact of the bees in the particular hive in question being employed as "fanners" would suggest that there was some lack of ventilation.

[3774.] *Birds and Bees.*—I herewith enclose in a small box what I take to be the remains of bees, and ask if you will kindly inform me if I am right, and what caused it. Although a bee-keeper of some years' standing, I have never seen anything similar before. It was found partly on the top of a hive and partly on the ground, and more could have been obtained. By way of explanation I may say that I have lately noticed three bee-enemies around my hives, (*a*) a large toad in the potatoes growing in front, (*b*) swallows flying low and capturing stray bees in the early morning and evening, (*c*) a shrike or butcher bird which has been around continually. Am I correct in supposing that the substance is composed of the remains of drones and dead bees generally, picked up near the hives, and then vomited or otherwise? —SYDNEY BURDEN, Headcorn, Kent, August 17.

REPLY.—The box contained parts of the legs and bodies of bees, beetles, and various small insects, after the fleshy parts, such as the thorax, and other edible portions of the victims, had been swallowed. It is not easy to say how the cast-off parts of the insects have become matted together as in the gruesome-looking mass, but it appears certain that the ordinary food of the birds named such as snails, &c., has been very scarce in consequence of the dry weather, and has caused a raid on the insect tribe.

Notices to Correspondents.

***Mr. T. Knight, whose request for a queen-cell appeared on page 317, writes as follows:—"Thanks to your courtesy in publishing my letter, I have received from an unknown friend three queen-cells, and at once fixed them up in the hive. I am greatly obliged to you for printing my request."

A. B. C. (Worksop).—"*Mead and How to Make It*" and "*Honey-Vinegar.*"—Directions for making the above are published as separate pamphlets, which may be had from this office for 2½d. each post free.

J. VICARS (Cumberland).—*Queen "Balling."*—The dead queen sent, in addition to being badly "balled," has also been roughly handled by someone, the thorax being crushed and distorted

out of shape. It is therefore impossible for us to judge accurately as to purity of breed. We can hardly think it is a pure Carniolan, but it may be.

G. BLAND (Chesterfield).—*Varieties of Heaths.*—No. 1 is *Erica cinerea*, or bell-heather; No. 2, *Calluna vulgaris*, or common ling, which is by far the better for honey.

W. J. COOK (Soham).—*Dead Bees Cast Out of Hives.*—We cannot diagnose disease from dead bees cast out of hives, or crawling on the ground only to die. Bees sent are the common brown variety, and nothing in their appearance indicates the cause of death. It might help you to an idea on the subject if the combs and brood are examined, but it is impossible for us to judge from a distance.

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ELAS (Sale).—Your sample is mainly from the lime-tree blossom. It is bright and of good quality for a lime honey, the flavour and consistency being very fair. It should stand well at a local show in the medium-coloured class, but is hardly good enough for a large competition.

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H. C. S. (Cirencester).—No. 1 is honey gathered from white clover, and is very good indeed; far better than No. 2. We cannot understand the latter being put above No. 1 on the show-bench.

Suspected Combs.

M. H. G. (Kent).—The dead larvæ in comb seems to have suffered from an attack of what is termed black brood; but there is also a good deal of chilled brood in comb, so that if the rest of the combs in skep are like sample it may account for the failing condition of the bees.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

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EXTRACTOR (Cowan's 2-frame reversible, by Meadows) for sale, third season in use, £2.—STEPHENS, Womaston, Kington.

7 STRONG HIVES BEES, on rail, packed by expert, 30s. Hive; offer requested for whole.—KING, Burlescombe, Devon. j 82

WANTED, Driven Bees. Quote price per lb., August delivery.—WM. ADAM, Hillcrest, Elgin. j 81

2 STOCKS OF BEES FOR SALE.—COLLINGS, Crescent-road, Bromley, Kent. j 80

FOR SALE, Knitting Machine, Higham ribber, 3 Cylinders, in first-class order, £4, or exchange Bees to that amount.—Apply, W. DORCY, 28, Queen-street East, Thornaby-on-Tees. j 79

SEVERAL GOOD LOTS HEALTHY DRIVEN BEES, 5s. lot, new packages free.—FERRIDAY, Fouroaks, near Lichfield. j 78

FINEST CLOVER HONEY, Extracted, 55s. cwt.; tins returnable; sample, 3d.; also 2 gross first grade Sections, 7s. doz.; safely packed.—TREBBLE, Romansleigh, South Molton. j 77

GOOD GEARED EXTRACTOR, in thorough working order, used this season. Bargain, £1.—LITMAN, Castle Cary. j 76

CHESHIRE'S "Bees and Bee-keeping," volume 2, Practical, now out of print, for sale; cash offers.—S. WATSON, Southview, Wolsingham, R.S.O. j 75

Special Prepaid Advertisements.—*Continued.*

FINE WHITE CLOVER AND SAINFOIN HONEY, in 28 lb. tins, 56s. cwt.; sample 2d.—A. E. ROWELL, Ashdon, Saffron Walden, Essex. j 74

4 "W. B. C." BODY-BOXES, fitted with Standard Frames, 2s. each; 3 Nucleus Hives, 2s. 6d. each.—HARRISON, Farm, Middleton, Pickering, Yorks. j 73

WALLFLOWER SEEDLINGS, Crimson or Yellow, 100 1s. 4d., post free.—DOBSON, 10, Harlow-road, Bradford. j 72

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FINE SELECTED 1908 FERTILE QUEENS, hardy and prolific, guaranteed healthy and safe arrival, 3s. 6d. each. — WHITING, Valley Apiaries, Hundon, Clare, Suffolk. j 69

FOR SALE, Extracted Honey, and few Sections, also Shallow Combs.—HASTINGS, Welcombe, Stratford-on-Avon. j 68

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FINEST ENGLISH, NORTH WOLD CLOVER HONEY, £3 per cwt., on rail.—SMITH, Hope House, Caistor. j 66

WANTED, Secondhand "W. B. C." Hive, complete, good condition.—J. W. H., Tentfield, Newbury. j 65

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6 RACKS DRAWN-OUT COMBS, in Sections, clean, 5s. each; "Little Wonder" Extractor, good condition, 6s.—L. MATTHEWS, Great Rollright, Chipping Norton, Oxon. j 63

FOR SALE, 1 gross Clover Sections.—F. W. FOLDS, Wandon End, Luton. j 84

HONEY IN BULK, in lots of not less than 2½ cwt., and Sections wanted.—Send sample and lowest cash price to W. H. HOOPER, Bee Expert, Moseley Bank, near Worcester. j 39

HEALTHY DRIVEN BEES, in August, 5s. per lot; boxes returned. — HIGLEY, Expert, Mason-street, Kidderminster. j 36

17 CWT. PURE ENGLISH HONEY, 1908, Extracted, finest quality, 59s. cwt., free on rail. Cash offers only entertained. Sample 3d.—JOCKMAN, Sidney Farm, Cambridge. j 33

MAHOGANY SHOW-CASE, to take one Shallow Frame, 4s. pair.—BURTT, Gloucester. j 32

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WANTED, SECTIONS FOR CASH, first quality.—State quantity to W. CHILTON, Southdown Apiaries, Polegate. j 51

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THE

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

REGISTERED FOR TRANSMISSION AS A NEWSPAPER.] [ENTERED AT STATIONERS' HALL.

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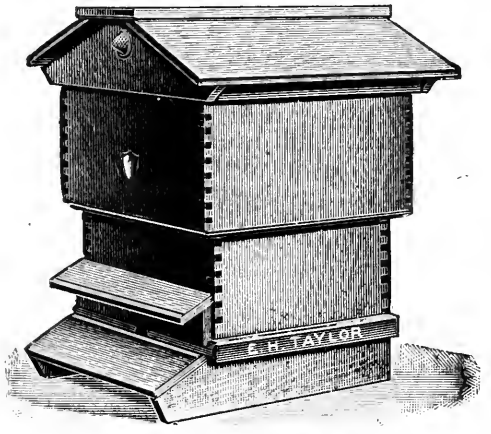

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ESTABLISHED 1873.

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Edited by T. W. COWAN, F.L.S., &c., and W. BROUGHTON CARR.

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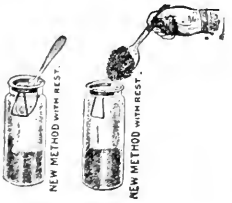

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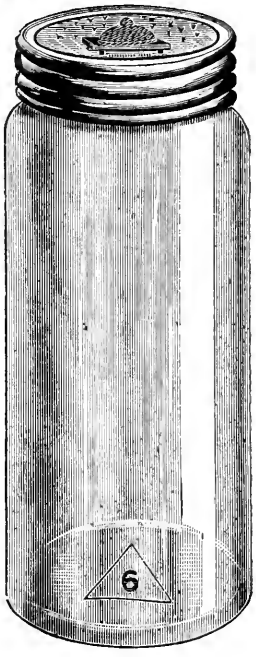

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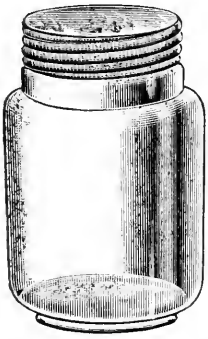

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Full particulars of both Exhibitions, together with the "Conditions and Regulations," will be sent post free on application to **H. S. ROGERS, Secretary**, Palmerston House, Old Broad-street, London, E.C.

SPECIAL NOTICE.

In order to induce Bee-keepers to compete for the liberal prizes offered, the entry fee has been fixed at One Shilling in each class.

Editorial, Notices, &c.

BEE-KEEPING AND THE BOARD OF AGRICULTURE.

In our issue of July 18 last year mention was made of a Departmental Committee appointed by the Board of Agriculture and Fisheries to inquire into and report upon the subject of Agricultural Education in England and Wales, and that in this connection the chairman of the B.B.K.A. (Mr. T. W. Cowan) and a member of the Council (Mr. W. F. Reid) were invited to give evidence before the Committee, and did so. We have now received a copy of the report, from which we print below a brief abstract, which will be of interest to readers as bearing on the amount of support the bee-industry is likely to receive from the Government in furtherance of technical instruction in bee-keeping being given in rural districts where the pursuit may be made a source of profit to cottagers and advantageous to fruit-growers and as a minor industry connected with small farm-holdings. The report reads as follows:—

INSTRUCTION IN BEE-KEEPING.

Attention may be particularly drawn to bee-keeping on account of its importance to all dwellers in rural districts, especially cottagers and small-holders.

The Committee received valuable and interesting evidence on the subject from two representatives of the British Bee-keepers' Association, one of whom stated that bee-keeping is the most remunerative petty industry in connection with agriculture or horticulture. Indirectly it may be even more remunerative, in view of the useful function which bees perform in fertilising fruit blossoms.

The question of the importance to fruit-growers of keeping bees engaged the attention of the Fruit Committee, and they recommended "that it would be an advantage to fruit-growers if they kept bees in connection with their fruit-plantations." The witnesses mentioned above gave, before this Committee, much evidence in support of that recommendation: definite cases were given showing the benefit that fruit-growers had derived by the keeping of bees. In one case the yield was by this means increased "simply marvellously": and in another an orchard, previously unproductive, began, as soon as bees were introduced, to yield an abundance of fruit.

The Committee, therefore, feel that provision for instruction in this subject, including the preparation of honey for market, should be made in many counties where it is at present unavailable, and the production of honey in this country thereby largely increased.

LANCASHIRE AGRICULTURAL SOCIETY.

HONEY SHOW AT MANCHESTER.

A very good display of honey and bee-produce was staged at Manchester in connection with the annual show of the Lancashire Agricultural Society on July 30 and three following days. The entries in the bee and honey section were considerably in excess of last year's, but hardly so many as the numerous liberal prizes offered by the society should have produced. No doubt the closing of entries in June had a deterring effect on exhibitors in so late a season as this has been, particularly in the local classes. Notwithstanding this, however, the display in the bee-department was a great contrast to that of last year, and we trust the encouragement given by the society to the bee-keeping industry will be appreciated fully as it becomes more generally known.

Mr. W. Tyrer, J.P., Prescot, and Mr. L. S. Crawshaw, Ilkley, Yorks, officiated as judges and made the following awards:—

OPEN CLASSES.

Twelve 1-*lb. Sections.*—1st, A. W. Weatherhogg, Willoughton; 2nd, G. Nicholson, Langwathby, Cumberland; 3rd, J. Pearman, Derby; v.h.c., R. H. Baynes, Cambridge; h.c., Rev. R. M. Lamb, Burton Pidsea, Hull; c., John Goodsell, Sissinghurst, Kent.

Twelve 1-*lb. Jars Extracted Honey.*—1st, J. Boyes, Cardiff; 2nd, S. Cartwright, Shawbury, Shrewsbury; 3rd, R. Morgan, Cowbridge, Glam.; v.h.c., R. H. Baynes, Cambridge; v.h.c., F. Gordon, Royston, Herts; h.c., J. Pearman; h.c., W. J. Cooke, Market Rasen; c., R. M. Lamb; c., S. G. S. Leigh, Broughton, Hants.

Twelve 1-*lb. Jars Extracted Honey* (novices only).—1st, E. Church, Cardiff; 3rd, James Iddon, Hesketh Bank. (No 2nd awarded.)

Twelve 1-*lb. Jars Extracted Honey* (county only).—1st, A. S. Dell, Leigh; 2nd, W. Lowe, Rainhill; 3rd, J. Stirzaker, Moss Side, Stalmine; v.h.c., J. Whiteside, Hesketh Bank; v.h.c., R. Rymer, Hesketh Bank; h.c., Exors. of J. Ball, Hesketh Bank; c., J. Ingham, Farnworth.

Twelve 1-*lb. Sections* (county only).—2nd, Miss Ada M. Dell, Boothstown; 3rd, W. Clarke, Grange-over-Sands. (No 1st awarded.)

Twelve 1-*lb. Jars Medium-coloured Honey.*—1st, J. Pearman; 2nd, J. Dandy, Tarleton; 3rd, F. W. Frusher, Crowland.

Twelve 1-*lb. Sections Heather Honey.*—1st, J. Pearman; 2nd, W. Dixon, Leeds.

Twelve 1-*lb. Jars Granulated Honey.*—1st, H. Fenney, St. Helens; 2nd, F. W. Frusher; 3rd, J. Boyes.

Trophy of Honey (county only).—1st, Miss Ada M. Dell; 2nd, A. S. Dell, Leigh; 3rd, Dawson Bros., Holmewood.

Beeswax.—1st, John Berry, Llanrwst; 2nd, Mrs. F. Harris, Sibsey; 3rd, J. Pearman; v.h.c., A. S. Dell, Leigh; h.c., F. W. Frusher.

Two Shallow or Standard Frames Honey.—1st, J. Stirzaker, Poulton-le-Fylde; 2nd, F. R. Ford, Burwell; 3rd, H. Fenney, St. Helens.

Hive suitable for Cottagers' Use.—1st, F. Lowe, Rainhill.

Complete Frame-hive.—1st, W. Dixon; 2nd, F. Lowe.

LEICESTERSHIRE B.K.A.

ANNUAL SHOW.

The annual show of the above association was held in connection with the twenty-third annual horticultural exhibition at the Abbey Park on August 4 and 5. The number of entries in the bee-department was about the same as last year, but the quality was much superior, and the exhibits made up a very attractive display. Demonstrations with live bees were given at intervals on both days to large audiences by Messrs. A. G. Pugh (Notts) and E. J. Roper (Birstall). The same gentlemen officiated as judges and made the following awards:—

Observatory-hive with Queen and Bees.—1st, F. H. Hubbard, Leicester; 2nd, S. Clark, Old Humberstone.

Twelve 1-lb. Sections.—1st, A. J. Marriott, Market Harborough; 2nd, J. E. Fowles, Broughton Astley; 3rd, F. Pickersgill, Brooke, Oakham.

Twelve 1-lb. Jars (Light) Extracted Honey (North Leicestershire).—1st, F. Pickersgill, Brooke; 2nd, J. Garratt, Peatling Magna; 3rd, F. H. Hubbard; 4th, S. Clark.

Twelve 1-lb. Jars (Light) Extracted Honey (South Leicestershire).—1st, J. Waterfield, Kibworth; 2nd, W. Wesley, Desford; 3rd, Henry Bradbury, Kirby Muxloe; 4th, A. J. Marriott, Market Harborough.

Twelve 1-lb. Jars (Dark) Extracted Honey.—1st, J. Waterfield; 2nd, S. Clark; 3rd, Miss Laird, Thurnby.

Three Shallow-frames of Comb-honey.—1st, J. E. Fowles; 2nd, F. H. Hubbard.

Twelve 1-lb. Jars Granulated Honey.—1st, T. H. Geary, Leicester; 2nd, S. Clark; 3rd, Miss Laird, Thurnby.

Display of Honey.—1st, J. Waterfield.

Six 1-lb. Jars (Light) Extracted Honey (novices only).—1st, J. L. Cork, Desford; 2nd, W. B. Tallent, Diseworth; 3rd, Miss C. Wilkinson, Market Harborough.

Honey Beverage.—1st, J. Waterfield; 2nd, T. H. Geary.

Beeswax.—1st, T. H. Geary; 2nd, S. Clark.—JOHN WATERFIELD, Secretary.

CAMBRIDGE SHOW SOCIETY.

HONEY SHOW AT CAMBRIDGE.

An exhibition of honey and bee-products was held in connection with the annual "mammoth show" on Bank Holiday, August 3, and was a complete success, thanks to the efforts of Mr. C. J. Mapey, chairman of the Bee and Honey Section, ably seconded by Messrs. E. F. Dant and John Short as stewards. The entries were numerous and some splendid honey was staged. Mr. Jas. Lee, Fulbourn, and Mr. Allen Sharp, Brampton, officiated as judges, and also gave lectures and demonstrations in the bee-tent during the afternoon to large audiences.

AWARDS.

Display of Honey in any Form.—1st, R. H. Baynes, Cambridge; 2nd, Geo. Hills, Coton.

Twelve 1-lb. Sections.—1st, R. H. Baynes; 2nd, John Short, Cambridge; 3rd, Geo. Hills.

Twelve 1-lb. Jars (Light) Extracted Honey.—1st, R. H. Baynes; 2nd, Geo. Deilar, Royston; 3rd, Geo. Hills.

Twelve 1-lb. Jars (Medium) Extracted Honey.—1st, Geo. Hills; 2nd, C. Bowyer, Rock Estate; 3rd, R. H. Baynes.

Three Shallow-frames Comb Honey.—1st, R. H. Baynes; 2nd, John Short; 3rd, C. J. Mapey.

Single 1-lb. Section (hospital class).—1st, R. H. Baynes; 2nd, Alfred Barker, Comberton.

Single 1-lb. Jar Extracted Honey (hospital class).—1st, Geo. Hills; 2nd, T. Cock, Braintree.

The total number of visitors that passed the turnstiles during the day reached 21,000. — ERNEST F. DANT, Member B.B.K.A.

SOMERSETSHIRE B.K.A.

ANNUAL SHOW AT TAUNTON.

The Somerset B.K.A. held their annual show in the Park, Taunton, on August 12 and 13, in connection with the Taunton Deane Horticultural Society. The weather was everything that could be desired, and all the stages were fully loaded with honey of unusually good quality. Messrs. T. W. Cowan, W. B. Carr, and L. N. Tite judged the exhibits, and made the following awards:—

Collection of Honey.—1st, J. Seldon, Umberleigh; 2nd, W. Peirce, North Petherton.

Twelve 1-lb. Jars Extracted Honey.—1st, R. W. Lloyd, Thetford; 2nd, H. W. Saunders, Thetford; 3rd, W. J. Pritchard, Andover; v.h.c. and r., J. Trineman, Lostwithiel; h.c., C. W. Dyer, Compton, and H. J. Moore, Radstock.

Twelve 1-lb. Sections.—1st, C. W. Dyer;

2nd, J. Fairall, Hellingly; 3rd, Miss Wilson, Great Canfield; v.h.c. and r., W. Peirce; h.c., J. W. Brewer, Bath.

Single 1-*lb. Jar Extracted Honey.*—1st, H. W. Saunders; 2nd, T. G. Hillier, Andover; 3rd, J. Trineman; 4th, R. W. Lloyd; v.h.c., L. Hosegood, Taunton, A. G. Pugh, Nottingham, and C. R. Smith, Ipswich; h.c., W. Patchett, Caistor.

Single 1-*lb. Section.*—1st, J. Seldon; 2nd, H. W. Saunders; 3rd, T. G. Hillier; 4th, J. W. Brewer; v.h.c. and r., C. W. Dyer.

Beeswax.—1st, J. Trineman; 2nd, H. W. Saunders; 3rd, A. S. Hoare, Saltash.

Bee-keeping Appliances.—1st, E. E. Chick, Taunton.

Observatory-hive with Bees.—1st, L. E. Snelgrove, Weston-super-Mare.

Three Shallow-frames Comb Honey.—2nd, W. Peirce.

Twelve 1-*lb. Jars Granulated Honey.*—(No award.)

Six 1-*lb. Sections.*—1st, J. W. Brewer; 2nd, W. Peirce; 3rd, Miss E. Woggett, Nailsea.

Six 1-*lb. Jars Extracted Honey.*—1st, J. Buckland, Pitminster; 2nd, H. J. Moore; 3rd, J. B. Moore, Bath; v.h.c., Sidney Gibbs, Bleadney; h.c., L. Hosegood.

Three 1-*lb. Sections.*—1st, H. P. Beavan, Ilton; 2nd, A. J. Lucas, West Town.

Three 1-*lb. Jars Extracted Honey.*—1st, J. Buckland; 2nd, L. Hosegood; 3rd, J. B. Horne.

The Challenge Honey Pot, the gift of Colonel H. F. Jolly, goes to Mr. W. Peirce, North Petherton, for most points in members' classes.

Mr. W. Herrod gave interesting demonstrations and lectures in the bee-tent on both days.—L. E. Snelgrove, Hon. Sec.

ANGLESEY B.K.A.

ANNUAL SHOW.

The Anglesey B.K.A. held their fourth annual honey show at Llangefni, in connection with that of the County Agricultural Society, on August 13, and it was a great success, the entries being greatly in excess of former years. The honey-tent was crowded all day, the display of bee-produce being voted the best held in North Wales. As will be noticed in the prize list, there were two new classes, one for display of honey and bee-products (open to North Wales), one exhibit being the main feature of the show, and greatly admired.

The Rev. H. R. Cadwaladr judged the exhibits, and spoke very highly of the show as a whole. The Rev. O. Kyffin Williams, hon. secretary of the association, acted as steward of the bee-department. The awards were as follow:—

Six 1-*lb. Jars Extracted Honey* (open class).—1st, W. J. Cook, Binbrook, Market Rasen; equal 2nd, W. Roberts, Llangoed, and W. J. Williams, Llangoed; h.c., O. J. Williams; c., J. R. Williams.

Display of Honey and Bee-products.—1st, W. J. Williams, Llangoed; 2nd, O. Martin, Holyhead.

COUNTY CLASSES.

Three 1-*lb. Jars Light Extracted Honey.*—1st, R. Eccles, Point Lynas, Amlwch; equal 2nd, W. Roberts and W. J. Williams; v.h.c., J. R. Williams; h.c., Mrs. Lloyd, Plâs Tregaian; c., R. Eccles.

Three 1-*lb. Jars Dark or Medium Coloured Extracted Honey.*—Equal 1st, W. Roberts and W. J. Williams; 2nd, R. Williams, Penrhosliigwy; h.c., R. W. Owen, Bontfaen; c., J. O. Lloyd, Valley.

Three 1-*lb. Jars Granulated Honey.*—1st, W. Roberts; 2nd, W. J. Williams; h.c., W. F. Jones, Aberffraw.

Three 1-*lb. Sections.*—1st, W. F. Jones; 2nd, W. J. Williams; h.c., O. J. Williams, Tyn Llwydan; c., W. Roberts.

Two Shallow-frames of Honey.—1st, W. F. Jones; 2nd, W. J. Williams; h.c., W. Roberts; c., O. Martin.

Beeswax.—1st, R. W. Owen; 2nd, W. J. Williams; h.c., O. J. Williams.

COTTAGERS' CLASSES.

Two 1-*lb. Jars Extracted Honey.*—1st, W. J. Williams; 2nd, O. Martin.

Two 1-*lb. Sections.*—1st, W. J. Williams.—O. Kyffin Williams, Hon. Sec.

HASLEMERE AND DISTRICT B.K.A.

The first annual show of the above association was held, in conjunction with the Haslemere Cottagers' Horticultural Society, in the grounds of the Haslemere Recreation Club on August 12 in very fine weather. The quality and number of the exhibits afforded great encouragement to the committee. The show was only open to members of the association. Mr. C. Overton, Crawley, acted as judge, and made the following awards:—

Exhibit of Honey (*not less than* 21 *lb.*).—1st, T. W. Hogsflesh; 2nd, N. G. Owtram.

Six 1-*lb. Sections.*—1st, T. W. Hogsflesh.

Six 1-*lb. Jars Light Extracted Honey.*—1st, M. J. Lamboll; 2nd, J. Sharland.

Six 1-*lb. Jars Dark Extracted Honey.*—1st, M. J. Lamboll; 2nd, H. R. Owtram.

Single 1-*lb. Section.*—1st, T. W. Hogsflesh; 2nd, J. Sharland.

Single 1-*lb. Jar Dark Extracted Honey.*—1st, J. Sharland; 2nd, M. J. Lamboll; 3rd, T. W. Hogsflesh.

Single Comb of Honey in Shallow-frame.—1st, M. J. Lamboll.—H. R. Owtram, Hon. Sec., Haslemere.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

RESPECTING PARTHENOGENESIS.

[7198.] First let me ask you to receive my sincere thanks for your kind report instructively explaining the contents of my book, "Es gibt keine Parthenogenesis," in B.B.J. for July 30.

My main object in writing refers to a letter in your issue of April 23, 1908 (7087, page 164), in which your correspondent "Humble Bee," writing on the "Law of Parthenogenesis," says that six young queens bred from Mr. Sladen's "golden strains" mated with dark drones have produced dark young drones, while, according to the principle of parthenogenesis, the young drones ought to be golden-coloured like their mothers. This observation once more corroborates the correctness of the view and of the experiments of J. Pérez, John Lowe, Lanfranchi, and others, who had obtained dark young drones from golden-coloured queens mated with dark males. Concerning those facts, the following conclusion is the only logical one: *All drones proceed like the worker-bees and queens from fertilised eggs.*

Dr. Dzierzon's view, that drones have no father, is erroneous, and even Dr. Dzierzon himself believed it to be so after having obtained golden-coloured young drones from dark queens mated with Ligurian yellow drones. Professor E. v. Siebold's and Dr. A. Petrunkewitsch's studies on bee-eggs, till now believed scientific proofs of Dzierzon's view, contain technical and logical mistakes. The researches of the first author have no scientific value at all (even Professor A. Weismann and Dr. Petrunkewitsch, 1899, thought so); those of the second author (Petrunkewitsch) furnish physiological and microchemical evidence that drones arise from fertilised eggs. Siebold, not seeing (by his method) spermatozoa in the drone-eggs, believed them unfertilised. But Siebold ignored the fact that (1) the spermatozoon cannot be seen in a living bee-egg, because of the opacity of yolk, and that (2) in a twelve-hours-old bee-egg there is no longer a free spermatozoon, but a formed embryo (blastula, gastrula). Petrunkewitsch, searching in bee-eggs for the spermaster, was misled, however, by star-shaped spots of coloured sublimate-crystals he took for spermasters, the real spermasters having been destroyed by the too long duration (twenty-four hours!) of fixation in sublimate.*

My own microscopical researches of bee-eggs† show that all the drone-eggs (also eggs laid by worker-bees) are fertilised by spermatozoa, which is proved (1) by the spontaneous development of the drone-egg; (2) by the same size of cellular nuclei in the very young drone-embryos, like those in the worker-embryos (blastulæ); (3) by the acidity of the cellular nuclei in the drone-embryos; (4) by the movement of the egg-nucleus (female pro-nucleus) towards the mikropyle in the drone-eggs, similar to the movement in eggs producing worker-bees and queens; (5) by the duration in the development of the drone-egg.

Explanations: 1. No unfertilised egg of any organism is capable of spontaneous development, but without fertilisation dies early, as the well-known physiologist J. Loeb (Berkeley, California University) has shown ("Dynamics of Life-phenomena," 1906).

2. The cellular nuclei in embryos (blastula, gastrula), proceeding from eggs not fertilised with spermatozoa, but with acids, salts, &c. (chemical fertilisation), have always half the size of a normal cellular nucleus (in an embryo derived from fertilised egg). (Th. Boveri, *Zellstudien*, Heft 5, 1905, Jena.)

3. The nuclear substances of the fertilised egg are acid; those of an unfertilised egg are alkaline (Professor J. Loeb, 1906: *Biochem. Zeitschrift*, Bd. 2, page 34, October).

4. The nucleus of the ripe egg remains motionless on its place till the entrance of the spermatozoon in the egg, then the spermatozoon attracts the egg-nucleus, which goes to meet it.

5. An unfertilised egg, having only a semi-nucleus (egg-nucleus) without sperm-nucleus (the other semi-nucleus), ought to divide as fast again and as often as a fertilised egg with an entire cleavage-nucleus (*i.e.*, egg-nucleus + sperm-nucleus) (R. Hertwig and Gerassimow: "Kernplasmarelation," 1901, 1902). But drone-eggs do not divide faster and oftener than worker-eggs (female eggs), a fact proving that drone-eggs possess an egg-nucleus and a sperm-nucleus. Consequently, the drone-eggs have received spermatozoa like the eggs producing worker-bees and queens.

* Sublimate destroys in six to seven hours the cellular structures.

† Published 1907 in "Es gibt keine Parthenogenesis" ("There is no Parthenogenesis"), Teil I., II., III., mit 33 Abbildungen. Leipzig: C. F. W. Fest (editor of the *Deutsche Illustrierte Bienenzeitung*).

According to the principle of parthenogenesis, the following phenomena are inexplicable: 1. Why a fertilised normal queen-bee laying female eggs begins laying only drone-eggs, if she is for some time confined in a queen-cage, where she is not fed by worker-bees? 2. Why a young queen laying only drone-eggs, and, therefore, believed unmated, cannot be mated subsequently and then lay female eggs? If such a queen-bee really were a virgin, she could be mated, and in due course should lay female eggs. 3. Why a young unmated queen delays egg-laying till the forty-seventh day (according to Dzierzon and Berlepsch), and then begins laying only drone-eggs? If an unmated queen is capable of laying eggs, why should she wait so long a time before beginning egg-laying? Why does she not lay eggs (though unfertilised) from the seventh or eighth day after leaving the queen-cell, like the mated queen does? 4. Why a queen mated after seven or eight weeks never produces worker-bees, but only drones, although she has after mating spermatozoa in her oviducts, and eggs passing through the sperm receive spermatozoa, as shown by microphotographs from drone-eggs in my paper, "There is no Parthenogenesis" (1907)? 5. Are eggs developing hermaphrodite bees fertilised or not? If fertilised, they ought to give (according to Dzierzon) only worker-bees or queens; if unfertilised, they would (according to Dzierzon) give drones. Which manner of fertilisation takes place in an hermaphrodite egg? All these phenomena are easily and naturally explicable now, where we know that every developing egg is fertilised, whether female or male (drone-egg) ("Es gibt keine Parthenogenesis," Teil III.).

The sexual cells (egg and sperm) *of an organism* (if animal or plant) *are always in every respect* (that is, concerning sex, qualities, and energy) *what their producers are.* The eggs of the queen-bee, therefore, contain only the female qualities and characteristics the queen-bee herself possesses, the spermatozoa of the drone containing only male qualities and characteristics. Consequently, the egg transmits to the brood only maternal (female) sex and qualities, the paternal (male) sex and characteristics being transmitted by the spermatozoon alone. The queen-bee, therefore, cannot transmit to her brood, as has been believed till now, male sex and male attributes she does not have herself, and the drone cannot transmit female sex-characters he does not possess himself, no organism being able to transmit qualities it does not have itself. *The sex of the drone is the clearest proof of the drone-origin from fertilised egg*, the drone having obtained by inheritance his male sex-characters from a male (father of the young drone and fertiliser of the egg giving the young drone).

It is well known that energetic (strong) young queens produce much female brood, but that weak, badly-fed (in queen-boxes), old, and sickly ones lay only drone-eggs. Why so? Because an energetic queen-bee has energetic eggs, the nuclei of which (female pro-nuclei) are dominating (prevailing by their energy) over the weaker sperm-nuclei of the fertilising spermatozoa.* In such eggs, therefore, are developed the female sex-characters of the predominant female pro-nucleus (egg-nucleus), the male qualities of the dominated sperm-nucleus resting latent. The result are females (worker-bees, queens). If the female pro-nucleus (egg-nucleus) be weaker than the male pro-nucleus (sperm-nucleus)—as in the eggs of weak, old, badly-fed, and siekly queens—the male pro-nucleus will be predominant and develop its own (male) sex-characters in the embryo, the female qualities of the egg-nucleus resting latent.† The result is a male embryo (drone). Now it is clear why a mated normal queen producing female brood begins laying drone-eggs if alone in a queen-cage, where, no longer fed by worker-bees, she becomes weak, as do the eggs in her ovary. Thus the energy of the fertilising sperm-nucleus in these eggs prevails over the lower energy of the egg-nucleus, and develops the eggs into males (drones). For the same reason, tardily-mated young queens produce only drone-brood, for a virgin queen is not fed by workers, and therefore turns weak for all the rest of her life. Worker-bees (drone-mothers) never produce female brood, because they are small, badly-developed, weak females, possessing weak egg-nuclei, which are always dominated by the energy of the fertilising sperm-nuclei (egg-laying worker-bees are mated as shown in my above-mentioned paper). Likewise, weak young queens, though mated, produce only drone-brood. Quick, energetic, and well-fed young mated queens are always female-breeders, as generally known, because in their eggs the female pro-nucleus (egg-nucleus) prevails by its energy over the sperm-nucleus, forming the embryo after its own sex-characters into a female (worker-bee, queen). A young virgin queen never lays eggs, as is well known, before her mating-flight, even when the latter be not prac-

* In a fertilised egg there are two nuclei, the egg-nucleus and the sperm-nucleus, the latter derived from the fertilising spermatozoon. These two nuclei, called female and male pro-nuclei, unite to a single nucleus, the cleavage-nucleus.

† The more energetic germ-nucleus develops the egg-plasm in an embryo faster than the weak germ-nucleus does, because the strong individual works faster and more than a weak one. Thus the result (work) bears, for the most part, the character of the strong worker, *i.e.*, of the strong germ-nucleus.

ticable for six, or seven weeks. How could she, unmated, lay eggs after this time, as is generally believed? Indeed, she does not produce any brood if not mated, as Mr. Hermann Ritter (Kassel, Germany)—a very intelligent and trustworthy bee-keeper and observer—has demonstrated experimentally (1905-1907). Therefore, if young queens (virgins) do not lay eggs for a long time, and then begin laying only drone-eggs, they had mated—if not outside the hive—in the hive, as Mr. Comstock and others have stated. But such a queen is, generally, a drone-breeder, because she has mated too late (after seven weeks), and all tardily-mated queens become drone-breeders, because the worker-bees do not feed a young virgin queen before her mating, this fact being the reason of the subsequent weakness, and therefore of the drone-breeding, of those queens. Hermaphrodite bees arise from fertilised eggs, the female pro-nuclei (egg-nuclei) of which are of equal energy (strength) with the fertilising sperm-nuclei (male pro-nuclei) (compare M. Kuckuck, "Es gibt keine Parthenogenesis," Teil III., page 14, "Gesetz der Geschlechtsvererbung"). Exact proofs and explanations on this matter are given in my book, "There is no Parthenogenesis."

Many bee-keepers (Mr. Fey, Ritter, K. Günther) have stated that at every season, even in winter and early spring, there are always some drones, and that with queens hatched early in the spring drones are also hatched (H. Ritter, *Deutsche Illustr. Bienenzeitung*, 1904, No. 8, page 119). Mr. J. C. Roberts (Maidstone) had a young queen mated early in March (BRITISH BEE JOURNAL, 1907, April 18, page 157). Consequently there is no reason for believing that a young drone-breeder is a virgin because she is hatched early in the season and has a "clear fluid" in the spermatheca (BRITISH BEE JOURNAL, 1908, July 30, page 305). The mere microscopic examination of the fluid in the spermatheca is worthless for distinguishing a virgin queen from a mated one, because Professor Leuckart often did not find spermatozoa in the spermatheca, but in the oviducts of the mated queens. — DR. MARTIN KUCKUCK, Lucerne, Switzerland.

WAX-RENDERING.

[7199.] Your correspondent A. Arnold King (7196, page 336), being anxious to know the best way of treating old and pollen-clogged combs, has induced me to send a brief reply giving my method of dealing with such combs. Where time is of any value (and it is to most of us), my advice is to make short work of the job by consigning them to the flames! Many years since I tried melting them down, but found it very unprofitable work—a great deal of trouble and mess for a fractional return.—T. A. F., Reading, August 24.

*** *Pressure on our space compels us to hold over several letters till next week.*

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. Macdonald, Banff.

Getting Combs Built to Bottom-bar.—"To accomplish this I cut a good comb lengthwise into strips about $\frac{7}{8}$ in. wide, using a sharp thin-bladed knife. I then lay a comb on its side and trim off about $\frac{1}{4}$ in. from the bottom, then insert one of the strips and place it in the second story of a hive during a honey-flow, and within twenty-four hours the work is completed. On this plan I have a stock of combs that are more beautiful than any wired combs I have ever seen." The writer, Mr. N. S. Ponder, at one time believed that wiring combs was absolutely necessary, but now he has adopted the foregoing plan, although, as he tells us, he is "cranky" about having perfect combs. The editor of the *Review* would not like to be bothered with this patching of combs, and would prefer to do any extra work on it before putting it into the hive. By the way, Mr. Ponder gets these "perfect combs" of his by inserting one frame at a time in the centre of his hives, allowing the bees to have an equal force on both sides of the foundation when it is being drawn out. If this frame is placed between two combs a solid block of brood, it is almost certain to be built-out straight and uniform. Otherwise, with bulging combs on either side, it is as certain to be irregularly constructed, with depressions where the others are thick, and bulges where they are thin. Combs "flat as a board" can be built nowhere else more surely than between two combs of sealed brood.

Carniolans and Caucasians Again.—Mr. L. Scholl, of Texas, objects to the former that they are still true to the old trait of excessive swarming, and he has never had anything in any other race to equal them in this respect. In addition, they rear, he says, an inordinate number of drones. "Even young queens only a few weeks old will fill every drone-cell to be found in the hive. This not only at swarming-time, but at all seasons of the year when brood-rearing is going on."

Caucasians were kept by Messrs. Root alongside of Italians to determine their relative merits as to gentleness, honey-gathering qualities, and any other special traits. The conclusion come to on the first point is: "Colony by colony, season in and season out, with ordinary care,

one will receive as many stings from Caucasians as Italians. They are no gentler, but no crosser, than the average Italians. In honey-gathering they ran neck-and-neck with the other race during the early part of the season." But—and there is a big but—95 per cent. of the Caucasians swarmed, against 5 per cent. of the Italians, under precisely the same management! Further, they have a bad habit of daubing everything with propolis. Brand-new frames in three months' time are made to look as if they were four or five years old. Again, "they proved the worst bees we ever saw to plug in brace-combs, even down in the very heart of the colony, as well as about and above top-bars." Better to bear the ills we have than fly to others that we know not of.

White Clover.—Lately I wrote an article—I think in *Record*—wherein I lauded this plant, describing it as "one of the chief staple sources of supply, yielding a honey second to none." Mr. Hill, in the *Bee-keeper*, takes me to task on account of my "erroneous teaching." I plead "Not guilty"! While "thousands of bee-keepers never have seen a white clover plant," it is still the most widespread source of honey the world over. Ask Mr. Byer in Canada, Dr. Miller in Marengo, Mr. Root in Medina, Mr. Scholl in Texas, any bee-keeper all over Europe, if I am in error. Read the Australian *Bulletin* or *Bee-keeper*, and see what they think of it as a staple honey-plant, and I venture to think still they will agree with my original statement. Now, as to the value of the second clause of my sentence, read the following: "While most persons seem to tire in time of almost any one kind of honey, that from the clovers seems to 'wear' like bread, butter, and potatoes; for it is the great staple in the markets, and where one can recommend his honey as pure white clover, he has said about all he can for it." This broad view—Mr. Hill treats mine as the result of environment—is that of a man who knows all about *American* honey that is worth knowing. Mr. Root—for my quotation is an extract from "The A B C of Bee-keeping"—further describes the common white clover "as at the head of the entire list of honey-producing plants. We could better spare any of the rest—I might almost say all the rest—than white clover." Mr. Hill had better settle the question with his fellow-editor before again lecturing me on my errors. When I commit them he is, however, perfectly welcome to point out my sins. I like correction; it gets at truth—the best thing to get at either here, in America, or anywhere.

A Good Smoker Fuel.—"An excellent smoker fuel is greasy waste, such as can be obtained at a machine-shop, printing office, or railway station. It gives a lasting smoke without sparks, and it does not gum up the smoker as does ordinary fuel. The waste should not be too greasy. In our opinion [Ed., *Gleanings*] it leaves everything else clear in the shade."

Re-queening.—Here is a short-cut method from the *Review*: "I have been successful in a large measure by simply putting a ripe queen-cell in the super of a colony having a queen two or more years old, and then letting things take their own course. The cell is inserted near the close of the white clover flow."

A Perfect Location.—One who has been pretty well over North America finds imperfection, or a limit to perfection, everywhere. The sage region is a bee-keeper's paradise if the sage yielded every year, but it does not. The alfalfa region yields well at times, but frequently months of bloom will not produce an equivalent of what weeks will do in the North. The mesquite of Texas is a freak, and the mangrove of Florida only yields when conditions are right. Mr. Hutchinson commends the clover region of the northern States and Canada, because, although it does not furnish at times the enormous crops of California, &c., there is a stability about it that is far more valuable, so that in the long run the yield equals, if it does not exceed, those other much-boomed regions.

Bee Shows to Come.

September 3, 4, and 5, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-six Classes (nine open to all). Increased Prizes and Medals. **Entries closed.**

September 5, at Bramhall. — In connection with Bramhall Horticultural Show. Honey Section under management of C.B.K.A. Liberal prize list for Honey, Extracted or Sections, and Wax. Silver and bronze medals for Local Class. Schedules of Mr. J. Sibson, Kitts, Moss Lane, Bramhall, Stockport. **Entries close August 31.**

September 5 to 12, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Trades' Sixteenth Annual Exhibition and Market. (See large advertisement on page iv.) **Open to all British Bee-keepers.** Entry fee in each class 1s. Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 9, at Wilmslow, Cheshire.—In connection with Adlington and East Cheshire Agricultural Society. Honey Section under the management of the C.B.K.A. Bronze medal for District Class. Liberal Prizes. Open and District Classes. Schedules of Mr. J. Sibson, Bramhall, Stockport. **Entries close August 31.**

September 12, at Dumfries.—Annual Show of South of Scotland B.K.A. Five Open Classes: 3 Bottles, 20s., 12s., and 6s.; 3 Sections, 15s., 10s., and 5s. (entry 2s.); 1 Bottle, also 1 Section, 5s., 3s., and 2s. (entry free, and exhibits retained unless otherwise agreed upon); Beeswax, 5s., 3s., and 2s. (entry 6d.). Thirteen classes for members. Schedules from Q. Aird, Hardgate School House, Dalbeattie, N.B. **Entries close September 5.**

September 14, at Conway, N. Wales.—Annual Honey Show, in connection with the Conway Honey Fair. Open and Local Classes. Schedules from J. Hughes, Town Hall, Conway. **Entries close September 7.**

September 19 to 26, at the Agricultural Hall, London.—Honey Show in connection with the Sixteenth Annual Exhibition and Market of the Grocery and Kindred Trades. (See large advertisement on page iv.) Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.** Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 23, at Altrincham.—Honey Show in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. Classes for Trophy of Honey, for Best Hive, Observatory Hive with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester, for Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low entrance fees. Schedules from Mr. J. Herbert Hall, 2, Dunham Road, Altrincham. **Entries close September 5.**

October 6 to 9, at the Agricultural Hall, London.—Show of Honey and Bee Produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for Honey, &c. Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover Square, London, W. **Entries close September 7.**

October 21 to 24, at Waverley Market, Edinburgh.—Honey show in connection with the Twelfth Annual Edinburgh and Midlothian Industrial Exhibition. All open classes. Beautifully illustrated prospectus, price 2d., from A. Hutchinson, 15, Leith-street, Edinburgh. **Entries close September 30.**

Queries and Replies.

[3775.] *Utilising Condemned Bees.*—Your kind assistance on the following, through the columns of the BEE JOURNAL, would be welcomed:—A farmer bee-keeper, living about a mile distant, keeps his bees thus: He has two stocks in skeps, which he does not disturb in any way, but each year hives the swarms from them in a home-made treble-hive containing standard frames in each. In the autumn he suffocates bees and takes the whole contents of this treble-hive, cutting out brood, &c. He is quite willing for me to have the bees this year when the time comes round, but this will probably be too late for the bees to gather more stores for their new home, as he is near heather, and waits till it is quite over. I therefore ask: 1. If put on frames of foundation and fed liberally on syrup would these bees be able to draw out comb and fill it from the syrup? 2. How shall I prepare the hive to receive them? 3. He has two stocks in this treble-hive this year; can the bees be transferred by simply shaking them off the combs into one box containing frames, "dusting" with flour during the process for "uniting" reasons, or should separate skeps be fixed above the frames and both lots be driven at the same time by rapping and smoking at the entrance, and then unite as they enter the new home? 4. I have a stock which has swarmed twice this year through mismanagement, and is now full of young bees and stores, but is doing little good as regards surplus storing. Would it be a good plan to make them draw out combs and fill them, replacing with sheets of foundation each time, and feeding them from now onwards for that purpose, then utilise these combs for the driven bees to come later? The "Guide Book" gives excellent instructions for driving from skeps, but I cannot find answer to above. Name sent for reference.—C., Yorks.

P.S.—Regarding the correspondence on birds and bees, I have lately seen the sparrows watching my hives carefully and swooping down and off with a drone as soon as it was tumbled out by the workers. They are not afraid of alighting on the board and snatching a worker also when there are not too many bees going in and out.

REPLY.—1. We fear the bees would stand a poor chance of filling their hive with combs (built-out after the close of the heather season) and sealing over the food given so late in the year. 2. If your farmer friend would allow you to select four or five frames of comb which contained little or no honey, and of very small value for melting into wax, you might manage to winter the driven bees on these if fed liberally and rapidly on good thick syrup given warm. 3. The simplest plan will be the first-named, viz., shaking the bees off frames in front of their new home and letting them run in. Dusting with flour, as named, will reduce risk of fighting. 4. It will be next to impossible to make the bees start comb-building so late as this. Your best plan is to proceed as advised in reply to Query No. 2.

[3776.] *Bees Casting out Drones.*—In a single day one of my hives turned out dead 150 drones and next day 300—450 in all. The stock is a very strong one, containing a lot of bees, but being a novice in bee-craft, I should like to know: 1. If this rate of drone-killing is normal or excessive? I may say the game is still going on, so if it is an excessive number can anything be done to stop it for next year? 2. The hive has got on two boxes of shallow-frames in which there is a lot of honey; I see it is not yet all capped over, and the bees are still busy. I suppose it is best to leave them on until capped, or at any rate until end of month. Is this so? 3. Is it advisable to reduce the number of frames in the brood-chamber when packing up for winter, seeing that the colony is a very strong one? There are ten frames and no room for dummy-boards. 4. In another of my hives the bees are not nearly so numerous as in the above, and it has not got the quantity of stores, and has only one box of shallow-frames, in which the bees started late to work. Would it be advisable in this case to take off the shallow-frames and stimulate them with thin syrup for a fortnight and then feed up rapidly with thick syrup? The bees are quite healthy and active, but somehow missed the honey flow. I had to start them on ready-drawn-out combs at the end of first week in July. They never went ahead as rapidly as the other hive. I should feel obliged for your advice. I send name and sign—Iso, Barnes, S.W.

P.S.—August 15. Since posting my letter last week the bees of first hive mentioned have in all cast out about 1,500 drones.

REPLY.—1. The fault lies in your allowing far too much drone-comb in the brood-chamber of the hive in question. No matter how many drones the hive contains, they will all be killed or cast out when their term of usefulness is ended. In your case the superfluous drone-cells and consequent drones have caused a heavy loss in honey, drones being heavy feeders and non-producers. A photo showing one day's work in drone-killing is seen on page 206 of "Guide Book," which probably exceeds your experience. The remedy is to remove the drone-comb in the hive and replace with comb containing worker-cells only. 2. If honey is not coming in fairly well the contents of the uncapped cells will be carried below into the brood-nest unless removed at once and extracted. 3. It is advantageous to remove all combs not covered by bees when packing down for winter if those left contain sufficient stores to carry the bees on till spring. Full directions on preparing bees for winter are given in "Guide Book" in chapter on "Wintering" (page 190). 4. Yes.

[3777.] *Dealing with Driven Bees.*—Three weeks ago I drove and hived a fairly strong stock of

bees from a box into which they had swarmed last year. The combs being full of brood at the time of driving, I gave it them in frame-hive to hatch out; all appeared to go on right, and pollen-carrying went on until this week, when I noticed that very few bees were to be seen coming out, and on examining hive I found the old combs full of syrup from the feeder and no trace of brood in any stage, neither could I find the queen. I therefore ask: 1. Am I right in concluding they are now queenless, and shall I do right to get another lot of driven bees with queen and unite them to the other lot, for they are not very strong, or would it be better to re-queen them? 2. I shall not be able to operate until September 12. Will that be too late for new queen to start laying? 3. On August 20 I heard the peculiar note or squeak mentioned in the "Guide Book" when bees are about to swarm, and at four o'clock in the afternoon the bees came out in large numbers, and the "liquid stream" consistent with swarming began to issue; but considering it too late in the season to permit swarming, I sprinkled the bees with a garden syringe, when they returned to hive, and have been quiet since. Kindly say if I acted correctly, and if the bees were intending to swarm. I apologise for troubling you, but have only kept bees four months, so am quite in the elementary stage.—NOVICE, Woodford Green, August 22.

REPLY.—1. The only chance of utilising the bees with any advantage is to unite them with a 3-lb. or 4-lb. lot of driven bees headed by a young laying queen. 2. If the bees are stimulated by continued feeding it is most probable that you will get a good batch of young bees reared before mid-October if weather keeps mild. 3. It did no harm to sprinkle the bees as stated, but the bees would have returned to their hive if left alone, as it could not well have been a natural swarm so late in the year.

[3778.] *Dealing with Swarmed Hives.*—I cut the enclosed cells from one of my hives, which sent out a large swarm about a month ago. I then put new frames in the original hive and threw the swarm back on the original stand. The old combs, of which I send one for inspection (and they were new last year), I placed in a "W. B. C." hive by the side of the old one, dividing the latter in two by placing a dummy-board in centre and arranging each compartment as follows:—One frame with queen-cells sealed and two other frames full of brood and nurse-bees adhering thereto, with, of course, separate entrances for each division. At time of writing the right side of dummy is full of new brood sealed, showing fertilised queen. The left side, however, had some brood-cells scattered like enclosed sample, and evidently no queen. I have, therefore, removed the division-board and put the only comb that did not contain any trace of brood with the other lot and let all bees mix as they were doing of their own accord. 1. I shall be glad to know if there is any disease, and, if so, how shall I treat the other lot? 2. I have pulled out all brood from the other frames (about fifty cells in all) and disinfected with carbolic, and as the combs are new and contain a lot of honey, can I safely put back with the remaining lot? I send name for reference and sign—PERPLEXED, Llanidloes.

REPLY.—1. The stock appears to be affected with the mild form of *Bacillus alvei*, called by some European foul brood. 2. If combs are sprayed with soluble phenyle as Recipe No. 8 in "Guide Book" it is not likely that any harm will follow, as the disease is only in the incipient stage.

[3779.] *Queen-bee Killed in Transit.*—Could you give me the benefit of your advice on the following? On Saturday, the 8th inst., I received a stock of bees from Kent, but found their queen had been killed in transit. I therefore united them to a stock of my own, but in the operation of uniting I unfortunately killed the queen of my own stock also owing to a frame slipping. I now find the bees have begun about a dozen queen-cells, and there being about twenty drones left in the stock from Kent (now united), I ask: 1. Will it be safe to trust to the fertilisation of the young queens, or should I introduce a new one and cut the cells out? There is no apiary within two miles of my own, so the risk of the young queen not being fertilised seems great. 2. Can you inform me if there is any flower from which the bees can gather a harvest now, except heather, of which there is none near here, and my bees have done hardly anything owing to dry weather?—C. B. COLLIER, Plymouth, August 15.

REPLY.—1. As young queens are cheap just now, we advise you to make sure of a laying queen for the stock; it is far the best course to follow. 2. There are a good many plants yielding honey this month which in normal seasons cease to secrete nectar several weeks earlier, as we have evidence of from many readers.

Notices to Correspondents.

T. C. RICHARDS (Loose, Kent).—*Fixing "W. B. C." Metal Ends on Frames.*—The right way to put on the metal ends in question is that shown on page 46 of "Guide Book," and any appliance dealer who sends frames out as shown in your sketch (*a*) is quite wrong in so doing.

G. S. J. (Hoylake).—*Starting Bee-keeping.*—1. Full information with regard to subscription to the B.B.J. appears on page ii. of each issue. 2. If you decide to begin keeping bees, and at present possess no knowledge whatever on the subject, your best course will be to procure a copy of the "Bee-keeper's Guide Book," in which will be found all the information you ask for. 3. There are two kinds of heather, viz., bell heather (*Erica cinerea*) and common ling (*Calluna vulgaris*), the latter being better for bee-forage; both of them are described and illustrated in the book. 4. Heather is the latest source from which bees gather surplus honey in quantity, usually coming in after the ordinary flower-season is over.

TRAVELLING (South Wales).—*Packing Bees for Transit.*—Since the bees you wish to send by rail are stated to be in a "W. B. C." hive, the best and most economical hint we can offer is to procure a copy of the "Guide Book," wherein will be found full details (illustrated from photos) explaining the whole process (see pages 119 and 120).

E. M. A. (Colchester).—*Making Honey-vinegar.*—When difficulties such as you name arise in making honey-vinegar it would be better to consult the author of the pamphlet whose process you are making it from. No doubt Mr. Bancks would oblige with a word of reply if written to.

ROATH PARK (Cardiff).—Bees sent are the common brown or native variety, but owing to the rough work of robbing they have been engaged in, all the pubescence, or hairiness, has been torn off their bodies, and this gives them the black shiny look robber-bees always have.

Honey Samples.

W. S. W. (Wolsingham).—Your sample is a bit thin in consistence and getting cloudy from incipient granulation, nor is the flavour quite good enough for the show-bench. It is not pure clover, but from mixed sources.

A. G. (Bristol).—Sample is from white clover, and of very good quality indeed.

HOLM VILLAS (Edmonton, London).—No. 1 is rather too thin, and the flavour of lime honey is too

strongly marked to compete on the show-bench with the best samples of clover honey. No. 2 is much the same in all respects, but either sample would no doubt obtain a certificate of merit if entered in a selling class.

C. H. (Kent).—Sample is good clover honey, and fit for any show-bench.

W. ARNOLD (Southampton).—If dark enough when seen in a 1-lb. glass jar for the medium-coloured class, it would stand well on the show-bench, but we cannot judge colour from samples sent in very small bottles. It is too dark for the "light" class.

F. J. M. (Thrupp, Glos.).—No. 1 is best in colour, but rather thin in consistency. No. 2 is just starting to granulate, and would need *slightly* heating in warm water to clear away the cloudiness. It is better in flavour also than No. 1, and better for showing. No. 3 is not so good as the others.

A. THOMAS (Todwick).—Your sample is of excellent quality on all points, and would stand well on the show-bench anywhere. We congratulate you on "a very satisfactory season" if your honey is like sample.

B. (Lewes).—It is so long since we saw your first sample, and have tested so many scores of samples in the meantime, that we cannot make careful comparisons, but that now sent is very good, and we would send it in preference to the other.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

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THE

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

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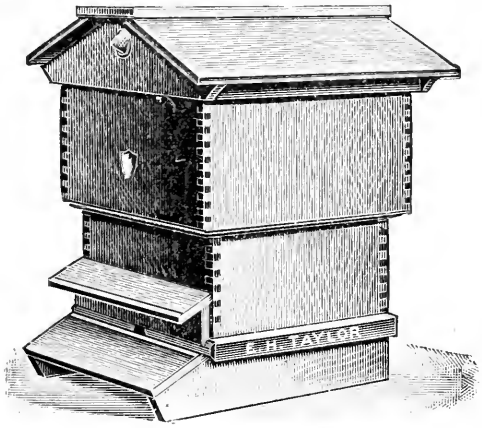

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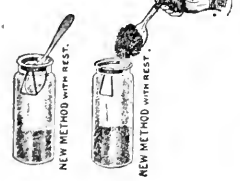

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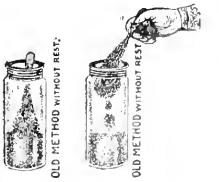

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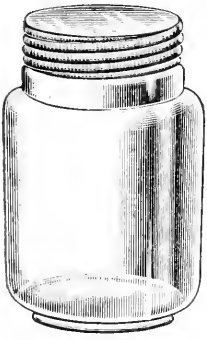

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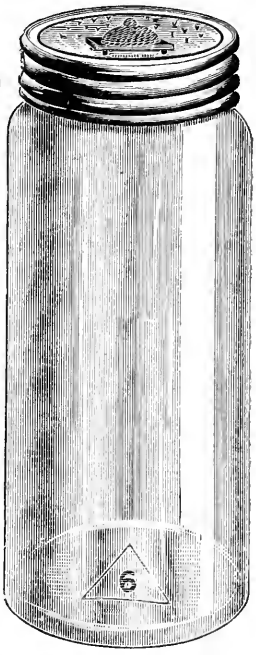

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Also ONE WEEK LATER, in the same Hall, the

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IN CONNEXION WITH THE
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SEPTEMBER 19 to 26, 1908.

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OPEN TO ALL BEE-KEEPERS IN THE UNITED KINGDOM.

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Full particulars of both Exhibitions, together with the "Conditions and Regulations," will be sent post free on application to **H. S. ROGERS, Secretary**, Palmerston House, Old Broad-street, London, E.C.

SPECIAL NOTICE.

In order to induce Bee-keepers to compete for the liberal prizes offered, the entry fee has been fixed at One Shilling in each class.

Editorial, Notices, &c.

YORKSHIRE AGRICULTURAL SOCIETY.

BEES AND HONEY AT HALIFAX SHOW.

The bee-section of this important show, which was held at Halifax from August 5 to 7, was a great improvement on that of last year in every respect. Favoured with fine weather, the attendance was very large on each of the three days the show lasted. In the bee and honey section the entries were numerous, and the quality of the exhibits so good as to render the competition extremely keen in most of the classes. Mr. F. Boyes, Beverley, judged the honey section of the show, and made the following awards:—

OPEN CLASSES.

Complete Frame-hive.—1st and 2nd, W. Dixon, Central Road, Leeds; 3rd, A. C. Jemeison, Dringhouses, York.

Twelve 1-*lb. Sections Heather Honey.*—1st, W. Dixon; 2nd, J. Pearman, Derby; 3rd, H. Waddington, Boroughbridge.

Twelve 1-*lb. Sections.*—1st, A. Weatherhogg, Willoughton, Lincs.; 2nd, W. Dixon; 3rd, J. Pearman; r., W. Patchett, Cabourne, Caistor.

Twelve 1-*lb. Jars Heather Honey.*—1st, W. Dixon; 2nd, J. Pearman; 3rd, A. Allott, Kexborough, Barnsley.

Twelve 1-*lb. Jars Extracted Honey.*—1st, W. J. Cooke, Binbrook, Market Rasen; 2nd, A. Weatherhogg; 3rd, J. Berry, Llanrwst, N. Wales; r., J. Pearman; c., F. Harris, Sibsey, Boston, R. Hunton, Grosmont, and W. Patchett.

Beeswax.—1st, W. Patchett; 2nd, F. Harris; 3rd, J. Berry; h.c., J. Pearman.

COUNTY CLASSES (AMATEURS ONLY).

Six 1-*lb. Sections.*—1st, G. Garbutt, Stockton-on-Tees; 2nd, W. E. Richardson, Whitkirk, Leeds; 3rd, J. C. Hall, Howden; h.c., W. Robson, Boroughbridge; c., H. Waddington.

Six 1-*lb. Jars Extracted Honey.*—1st, J. F. Stephenson, Harrogate; 2nd, R. Spaven, York; 3rd, J. H. Oldfield, Rotherham; h.c., F. A. Bean, Snaith, and W. E. Richardson; c., J. C. Hall, and J. Hawking, Boroughbridge.

Six 1-*lb. Jars Granulated Honey.*—1st, J. F. Stephenson; 2nd, A. Allott; 3rd, F. A. Bean; h.c., J. H. Oldfield.

Mr. W. Dixon showed (not for competition) an observatory-hive stocked with bees and a fine trophy of honey and bee-products. He also, in conjunction with the Rev. R. M. Lamb, gave demonstrations with bees, and lectures in the bee-tent on modern methods of bee-management.—(*Communicated.*)

WORCESTERSHIRE B.K.A.

SHOW AT MADRESFIELD.

The annual show of the above association was held at Madresfield, Malvern, on August 6, in connection with that of the Madresfield Agricultural and Horticultural Society. The entries were considerably in excess of last year, and some excellent samples of honey were staged. The bee-section attracted a large proportion of the 5,000 visitors who made up the total attendance, and among them were found several new members of the association, which has now reached a total of 230.

The Rev. Canon Coventry (president of the association) and Dr. Walpole-Simmons were appointed judges, but unfortunately the latter was unable to attend, and in the emergency the secretary (Mr. J. P. Phillips) undertook to assist Canon Coventry in the task of judging, the following being their awards:—

Complete Frame-hive for General Use.—1st, Geo. Richings, Worcester.

Twelve 1-*lb. Sections.*—1st, G. Richings; 2nd, S. Capper Hunt, Ledbury; 3rd, C. H. Haynes, Hanley Castle.

Six 1-*lb. Sections.*—1st, J. Toombs, Ledbury; 2nd, C. H. Haynes; 3rd, W. J. Woolley, Evesham.

Twelve 1-*lb. Jars Extracted Honey* (open class).—1st, W. J. Cook, Binbrook; 2nd, J. Toombs; 3rd, Miss Johnson, Guarlford.

Six 1-*lb. Jars Extracted Honey* (*Light or Medium Colour*).—1st, J. Toombs; 2nd, A. Firkins, Colwall; 3rd, Miss Johnson.

Six 1-*lb. Jars* (*Dark*) *Extracted Honey.*—1st, J. Toombs; 2nd, J. L. Brierley, Worcester; 3rd, A. R. Moreton, Hallow.

Single Shallow-frame Honey in Comb.—1st, G. Richings; 2nd, Miss Dudman, Broomhall; 3rd, J. Toombs.

Beeswax.—1st, J. Toombs; 2nd, T. Rouse, Tenbury; 3rd, G. Richings.

The Rev. E. Davenport gave instructive lectures and demonstrations in the bee-tent under the auspices of the County Council.—GEORGE RICHINGS, Assistant-Secretary.

BERKSHIRE B.K.A.

The Windsor Branch of the Berkshire Bee-keepers' Association held an exhibition of hives, honey, &c., in conjunction with the Clewer Horticultural Society on Bank Holiday at Clewer Manor. The attendance was excellent and great interest was shown by the general public in the honey show. The hon. secretary of the local branch is Mrs. W. S. Darby, 1, Consort Villas, Clewer, Windsor, and it says much for her perseverance that so excel-

lent a show was gathered together. Mr. G. P. Cartland rendered able assistance in staging the exhibits, &c., as did the Misses Brown and Russell and Mr. T. E. Darby.

The exhibits were judged by Councillor Wm. Carter, of Windsor, a well-known apiarist, whose awards were as follows:—

Six 1-lb. Sections.—1st, Mrs. W. S. Darby; 2nd, F. W. Ford; 3rd, J. S. Darby.

Six 1-lb. Jars Extracted Honey.—1st, J. S. Darby; 2nd, F. W. Ford; 3rd, Mrs. W. S. Darby.

Twelve 1-lb. Sections.—1st, Mrs. W. S. Darby; 2nd, J. Borlase.

Twelve 1-lb. Jars Extracted Honey.—1st, Mrs. W. S. Darby; 2nd, J. Borlase.

Twelve 1-lb. Sections.—1st, R. Brown; 2nd, J. Clarke; 3rd, J. Turner.

Twelve 1-lb. Jars Extracted Honey.—1st, J. Clarke; 2nd, R. Brown; 3rd, G. Head.

Special Class for Lady Bee-keepers (1st prize given by Mr. W. Carter, 2nd given by Mr. R. Brown).—1st, Mrs. Darby; 2nd, Dowager Duchess of Sutherland.

Beeswax.—1st, G. Head; 2nd, J. Clarke; 3rd, R. Brown.

Twelve 1-lb. Sections (open class).—1st, R. H. Baynes, Cambridge; 2nd, Miss M. A. Wilson, Dunmow, Essex; 3rd, R. Brown.

Twelve 1-lb. Jars Extracted Honey (open class).—1st, R. H Baynes.

HONEY SHOW AT LANCASTER.

The annual honey show of the Lancashire B.K.A. in connection with that of the Lancaster Agricultural Society was held at Lancaster on August 19 in ideal weather, and was a success.

Mr. R. Rymer, Hesketh Bank, judged the honey exhibits, and made the following awards:—

OPEN CLASSES.

Six 1-lb. Sections.—1st, A. Weatherhogg, Lincoln; 2nd, Jas. Pearman, Derby; 3rd, Wm. Patchett, Cabourne, Lincs; r., T. Walker, Hawkshead.

Six 1-lb. Jars Extracted Honey.—1st, R. Morgan, Cowbridge; 2nd, S. Cartwright, Shrewsbury; 3rd, A. Weatherhogg, Lincoln; r., Dawson Bros., Ormskirk; h.c., Wm. Patchett.

Six 1-lb. Jars Medium-coloured Extracted Honey.—1st, J. Standen, Cockerham; 2nd, Mrs. Carradus, Wray; 3rd, T. Walker; r., S. G. S. Leigh, Hants.

Beeswax.—1st, T. Walker; 2nd, W. Patchett.

LOCAL CLASSES.

Six 1-lb. Sections or Six 1-lb. Jars of Extracted Honey (novices only).—1st, A. Harrison, Settle; 2nd and h.c., P. M. Ralph, Settle; c., Jas. Gorst, Middleton.

Single Shallow-frame of Comb Honey.—1st, Jas. Gorst; h.c., Jos. Standen, Cockerham.

Trophy of Honey and Bee-produce.—1st and President's special prize, Ernest Lloyd, Lancaster; 2nd, Jas. Gorst.

Best Exhibit of Honey staged by Local Exhibitor.—1st (L.B.K.A. silver medal), Dawson Bros., Ormskirk; 2nd (L.B.K.A. bronze medal), T. Walker, Hawkshead.

L.B.K.A. Bronze Medal for Most Points obtained by Local Exhibitor.—Jas. Gorst.

A new feature of the show was the bee-driving contest, the prizes for which were given by Dr. Anderton, chairman of the L.B.K.A., and himself an enthusiastic bee-keeper. This competition attracted quite a crowd of onlookers to the bee-tent during its progress.

The success of the honey department was largely due to the enthusiasm of Mr. Wm. Lloyd, who again acted as steward, and whose untiring efforts on behalf of bee-keeping generally are well known all over the County Palatine.—JAMES N. BOLD, Hon. Sec., L.B.K.A.

SOMERSETSHIRE B.K.A.

HONEY SHOW AT RADSTOCK.

The annual show of the Radstock Branch of the Somersetshire B.K.A. was held in connection with that of the Radstock Horticultural Society on August 19. The Countess Waldegrave in opening the show expressed her surprise at the fine quality and appearance of the exhibits, which were staged in nine classes, and judged by Mr. S. Jordan, of Bristol, who made the following awards:—

OPEN CLASSES.

Twelve 1-lb. Sections.—1st, J. Stevens, Wells; 2nd, G. W. Kirby, Knowle; 3rd, H. Edgell, Farrington.

Twelve 1-lb. Jars Extracted Honey.—1st, G. W. Kirby; 2nd, H. J. Moore, Radstock; 3rd, J. Stevens, Wells.

Single 1-lb. Jar Extracted Honey (gift class).—1st, H. J. Moore, Radstock; 2nd, G. W. Kirby; 3rd, J. Stevens.

Single 1-lb. Section (gift class).—1st, R. Lane, Radstock; 2nd, J. M. Battalons, Bath; 3rd, J. Stevens.

Six 1-lb. Sections (members' class).—1st, R. Lane; 2nd, H. J. Moore; 3rd, H. Edgell.

Six 1-lb. Jars Extracted Honey.—1st, H. J. Moore; 2nd, F. G. Hales, Wellow; 3rd, R. Lane.

Three 1-lb. Sections.—1st, R. Lane; 2nd, H. Edgell; 3rd, F. Wilcox, Reasedown.

Three 1-lb. Jars.—1st, F. G. Hales; 2nd, H. J. Moore; 3rd, H. Edgell.

Two Shallow-frames Comb Honey.—2nd, Charles Collins. (No 1st awarded.)

Trophy of Comb Honey.—Certificate, H. J. Moore.

Trophy of Extracted Honey.—Certificate, H. J. Moore.

During the afternoon and evening short lectures and demonstrations were given by Mr. Jordan in the County Council bee-tent to good audiences.—H. J. MOORE, Hon. Sec.

HONEY SHOW AT STONE, STAFFS.

On August 5 the Stone Horticultural Society held their annual show at The Radfords, the residence of Mr. J. T. Harris, J.P., who very kindly placed his ground at the disposal of the society. It was an ideal place, and everything was compact, and as regards exhibits the event was a success. During the day the weather was overcast and threatening, but happily there was nothing to prevent a good attendance. Mr. John Kendrick was in charge of a honey show which was full of interest.

Mrs. T. Saint, High Street, Stone, in the unavoidable absence of Mr. Tinsley, expert to the Bee-keepers' Association, gave a lecture and demonstration on "Modern Bee-keeping." The subject was treated by Mrs. Saint in an instructive and attractive style. She gave some practical hints on the lines to be taken in the management of the bees and honey, &c., and at the conclusion the lecturer was heartily thanked.

Mr. Critchlow was the judge, and he spoke highly of the honey, which he said was very good.

His awards were as follows:—

Six 1-lb. Sections.—1st, J. Kendrick; 2nd, W. Tildesley, Meaford Crossing; 3rd, A. H. Evans.

Six 1-lb. Jars Extracted Honey.—1st, J. Kendrick; 2nd, J. Tinsley, Norton Bridge; 3rd, Miss E. Baggelley, Swynnerton; h.c., Mrs. Parrington, Stone; c., W. Tildesley, Meaford Crossing.

Six 1-lb. Jars Granulated Honey.—1st, J. Tinsley; 2nd, J. Kendrick.

Three Frames of Comb-honey for Extracting.—1st, W. Tildesley; 2nd, J. Kendrick.

Observatory Hive with Queen and Bees.—1st, J. Kendrick; 2nd, W. Tildesley; 3rd, J. Tinsley.—(*Communicated.*)

HONEY SHOW AT HORSHAM.

The show of honey held in connection with the Horsham Horticultural Society took place on August 27. The entries numbered in the honey section seventy-six against sixty-one last year, and the quality of the exhibits was very good indeed. Unfortunately, an untoward accident occurred, which threatened to spoil the show entirely—the staging on which were arranged all the exhibits (except the trophies, wax, and cakes) collapsed just as the judging was about to commence. Fortunately, two of the exhibitors (Messrs. R. B. Dart and J. R. Freeman) had not left the ground, and with the help of several willing assistants they put matters so far to rights that the judge, Mr. A. T. Carter, Billingshurst, was able to get through his duties early in the afternoon. He made the following awards:—

Trophy of Honey.—1st, J. R. Freeman; 2nd, S. Bailey.

Twelve 1-lb. Sections.—1st, R. Morris; 2nd, S. Bailey; 3rd, J. R. Freeman.

Twelve 1-lb. Jars (Light) Extracted Honey.—1st, M. Killner; 2nd, P. Peskett; 3rd, T. Duncan.

Twelve 1-lb. Jars (Medium-coloured) Extracted Honey.—1st, S. E. Rowland; 2nd, W. Thornton; 3rd, R. B. Dart.

Twelve 1-lb. Jars (Dark) Extracted Honey.—1st, T. Duncan.

Six 1-lb. Jars Granulated Honey.—1st, J. R. Freeman; 2nd, R. B. Dart.

One Shallow-frame.—1st, S. Bailey; 2nd, J. R. Freeman; 3rd, M. Killner.

Beeswax.—1st, R. B. Dart; 2nd, Miss Eversheld.

Honey Cake.—1st, Mrs. Freeman; 2nd, Miss B. Eversheld.

Honey Vinegar.—1st, Miss Eversheld; 2nd, J. R. Freeman.

COTTAGERS' CLASSES.

Six 1-lb. Sections.—1st, S. Bailey; 2nd, J. Muggeridge; 3rd, W. Wright.

Six 1-lb. Jars Honey.—1st, T. Duncan; 2nd, F. Booker; 3rd, H. Etheridge.

Beeswax.—1st, F. Booker; 2nd, W Thornton.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears*

AMONG THE BEES.

"ALL ABOUT BEESWAX."

[7200.] I have chosen the sub-title of Mr. Cowan's new book as my heading because it fully defines the subject-matter contained in this highly interesting and widely comprehensive volume on "Wax Craft." It has come to supply a

long and much felt want, and it fills its niche admirably, occupying as it does the whole field, and telling us in clear and distinct sentences everything that need be known about wax. One, at the first blush, wonders how a whole volume could be written about so narrow and circumscribed a subject. Yet we have here nearly 200 pages, making reading as interesting and fascinating as a novel. Written as the volume has been in a wide and cosmopolitan spirit, it must appeal to every bee-keeper in every clime wherever the English language is spoken. I would prophesy for it a very wide circulation, as its contents apply to apiarians in Australia, New Zealand, Canada, South Africa, and the States as pointedly and practically as to the bee-keepers of these Islands. The amount of information contained in its pages is astonishing, and nothing, indeed, but the most diligent research could have accumulated so much that it is desirable to know. The introduction supplies us with a key which enables us to understand how so full and comprehensive a work has been evolved, as there we learn it is "the result of notes and information collected during the past forty years."

The first chapter deals with the historical aspect of the subject, and I wish I could make many copious extracts; but to do anything like justice to it one has to take it in its entirety. Suffice it to say that it starts with the very earliest date, and tells us in condensed but graphic form all that is known of the subject since the early dawn of sacred, profane, or mythological history, ending with a rapid survey of the craft in modern times up to the present day. In ancient Palestine, Greece, Italy, and Egypt bee-keeping was an important industry, and the sale of honey and wax formed an important part of the revenue of the agricultural community. The arts and sciences profited by the production of wax; amongst the earliest materials for writing were tablets of wax, and figures and portraits modelled in wax were common. Painting in wax was practised at an early date, and figures of ancient deities were made up of this material. For medical purposes the valuable properties of wax were recognised from the earliest ages. "Cerates, poultices, plasters, eye-salves, antidotes," are named by Pliny.

Space will not permit more than the mere naming of the chapters on "The Production of Beeswax," "Refining and Bleaching," "Adulteration of Wax," "Beeswax in Commerce," "Colouring Wax," "Wax Candles and Tapers," "Manufacture of Wax Flowers, Fruits, and Figures," although each and all of them are full of useful and instructive information not only to the bee-keeper, but to the general reader eager for further knowledge.

Two chapters are full of absorbing interest to the apiarist—those on "Wax-Rendering" and the "Manufacture of Comb-Foundation." The different processes of the latter are fully described, and the new "Weed" machine is illustrated, the only one in this country being in the possession of Messrs. Lee and Son. It is claimed for the new system that it produces a much superior article, yielding a tougher and more transparent sheet of foundation of excellent staying power. Remembering the multitude of adulterants that may be used in making up foundation, it is of the utmost importance that it should be purchased from reliable firms. Nothing but pure beeswax should go into our hives, either in the brood or super bodies. The many tests of impurity given should be of great service to the craft in determining whether the foundation supplied is the genuine product of the bee, for it alone can stand the internal heat and strain without a breakdown.

Of the thousand and one systems or plans for rendering wax, only a few of the best are given. Every bee-keeper is advised to possess a solar wax-extractor. "Extracting in the Oven," "Extracting by Steam," "Hot-water Press," "Steam Press," an "Unheated Press," are each described, and we have illustrations of some half-dozen of the best, including specimens from America, France, Switzerland, and Germany. All appear good and efficient. It seems to be pretty well substantiated that some species of press is necessary to secure all the wax from a comb, all other processes of wax-rendering leaving a residue behind, what the Americans euphoniously describe as "slum-gum."

A very full "contents" of all the eleven chapters in the book gives a brief epitome of the subjects treated; but reference to any point named is supplied most efficiently by a profusely copious "index" at the end, which must be of inestimable value to the busy reader or the bee-keeper intent on hunting for information. This is a capital feature of the volume.

Perhaps in some ways the most interesting part of the book is what I have left to the last—viz., no fewer than *one hundred and ten* recipes wherein wax forms one of the most important ingredients. Some of these are cosmetical specialities, used to keep the skin delicate and soft; others are descriptive of the "Uses of Wax in Medicine," such as salves, plasters, and ointments, while over seventy technical uses are given in full. These I cannot give, but would advise the anxious

searcher after truth to "enquire within upon everything." The thirty-seven figures upon art paper illustrating the work are all exceedingly good, and include such diverse subjects as "A Wax Painting from Herculaneum," "Dædalus Fixing on Icarus's Wings with Wax," the famous "Normansell Cup," "Cocoons of Wax-moth in Comb," "Bees Comb-building," the various wax-presses already named, and some wax-palms from which some of the counterfeit wax on the market is obtained, with many others.

Perhaps, if there is any omission in this work telling us all about wax, it lies in the want of a chapter on "Preparing Wax for the Show-bench." I for one would like an authoritative pronouncement on this important point in bee-keeping, and trust it will be supplied in the second edition, which I doubt not will be called for at an early date.—D. M. M., Banff.

FOUL BROOD ACT FOR IRELAND.

[7201.] When this Bill was originally drafted I expressed strong disapproval of a clause which forbade removal from the premises of the products of an infected hive. I pointed out at the time that it was quite possible to get a hundredweight of honey of the finest quality from a hive which was slightly diseased, and also that the wax was quite suitable for commercial purposes, and, indeed, harmless if made into foundation, for spores cannot survive the two or three separate boilings at intervals of time which all wax gets before being made into foundation. Firstly, the bee-keeper melts it, and, secondly, the foundation-maker.

Even though the bee-keeper was allowed full value of the honey and wax, I should object on principle to the gratuitous destruction of valuable produce. To the Bill in its final form, as printed in the B.B.J. of August 20, I see nothing much to object, but it will require to be administered with tact and discrimination, and I venture to doubt the capacity of many experts to carry out the Act in the proper spirit and with thorough efficacy. Armed with compulsory powers, the inspector must be a man of great ability and possessed of sound common-sense, and also devoted to duty. He must know when to destroy and when and how to cure. Many persons claiming to be experts have one treatment for all stages of the disease, and entirely lack the power to discriminate. If such persons are appointed inspectors some bee-keepers will have a lively time. Given a really expert inspector, the result should not be evil, but good.

Wax-rendering.—The best method for an ordinary bee-keeper, in my opinion, is to have a large square galvanised iron vessel, holding about 25 gallons of water. Midway in the same place a perforated zinc tray. Put the rough wax beneath, and weight the tray (which rests on a ledge) down with a couple of bricks. Fill up three-quarters with water, put a "Primus" stove (large size) underneath, and in due course the water will boil, and all the wax rise to the top, leaving none whatever below the middle of the screen. It will be found that a small quantity of refuse material will also rise to the surface, but the cake of fairly clean wax can very easily be rendered finally pure by any of the usual processes of clarifying. This vessel will hold quite a pile of combs. My practice is to ram them down tight with a rammer till I can get no more in, and in this way boil perhaps sixty or eighty combs of standard size at once. It will, of course, be readily seen that though it may take a good while to heat so great a quantity of water, yet the amount of comb melted at one operation is an immense saving of labour in the end. This plan of wax-rendering is entirely my own devising, and, having found it an entire success, I give it for what it is worth. On page 437 of the JOURNAL for 1907 will be found details of an exact experiment showing the net weight of wax obtained by this method to be 2¼ oz. per standard frame from combs not over two years old and those not less than one year old mixed.

Extracting Honey.—I find a "Cowan" reversible extractor, made to take four shallow or two standard frames, is an excellent machine; while a four-frame "Cowan" with ball bearings is all that can be desired. Other types are, according to my experience, less satisfactory in all respects.

The Honey Season.—The season here has not been unfavourable as regards the summer, but in many districts, especially in Redruth, the inclement spring weakened the bees very much, many bee-keepers having lost nearly all their stocks. Those in more favoured localities should have done very well, but on the whole there will be a shortage, and good prices will rule both this year and also probably next. There is a brisk demand for honey, and none need accept the miserable prices we hear of—certainly not less than 56s. per cwt. in bulk for extracted honey, and many can with ease make 60s. if they hold out. The advertisements for honey in the BEE JOURNAL fully bear out my personal experience: the demand is brisk. I have previously had to complain of a slacker demand, but certainly it is now the other way, so far as regards genuine English honey.—W. J. FARMER, Cornwall.

A SWARM SWARMING.

[7202.] On July 25 last one of my hives swarmed, and the swarm was hived on a new stand. The swarm did well for a few weeks, and, knowing the queen to be old, I removed her on August 3, and the same evening introduced an Italian queen got from a dealer advertising them in the B.B.J., and all was apparently well till August 23, when it (the swarm) swarmed. Before returning it I looked in and found one queen-cell which had recently contained a queen, and four others sealed over, which I cut away. This done, I returned the swarm. I may say there were neither eggs nor brood in the combs. The only conclusion I can come to is that the newly-introduced queen was not well received, and they commenced to raise another. But why should the bees swarm when the first queen hatched out? The present queen seems to be an Italian, so the queen that was introduced must have laid some eggs. Your opinion will be greatly appreciated. Name sent for reference.—VIEW SOUTH, Wolsingham, Co. Durham.

[In our opinion, the young queen issued with the swarm, just as would have happened if she headed a second swarm, or cast, under normal conditions, and what followed was the natural result to be expected under the circumstances.—EDS.]

THE SEASON IN SCOTLAND.

MINIATURE SECTIONS.

[7203.] We have been favoured with a very good share of the glorious weather experienced nearly everywhere this summer, but, all the same, results from the hives have been a little disappointing. Too little rain was the trouble—certainly a much milder trouble than too much, as we had it last year. My three hives, with no swarming, have given an average of about 30 lb.—rather a poor finish to such a promising season. All supers are already off, and by re-queening and feeding the foundation for next year is being firmly laid.

Experimenting this season was confined to ¼-lb. sections, on the same lines as the miniature sections of 1906. Although the hive on which these sections were placed turned out later to be the weakest, yet I had three framefuls (eight sections to the frame) of very well-filled ¼-lb. sections. They weighed from 4 oz. to 4¼ oz. each. Perhaps I shall be able to report how these retail later on.

I was fortunate enough last winter to receive a number of the new paper honey-jars mentioned in B.B.J. These have just been filled, and I hope they will prove successful. Shaped as they are, they will turn out a nice ½-lb. or 1-lb. block of granulated honey, and so do away altogether with the glass jar and its accompanying spade at table.—R. N. ROBERTSON, Tayport, N.B., August 31.

WAX-RENDERING.

[7204.] Several interesting questions are asked on page 336 by your correspondent Mr. King as to the best manner of treating old frames of comb, and for a tabulation of results to be obtained in dealing with them. The reply of "T. A. F., Reading" (page 346), does not furnish the required information, and except in the case of an odd frame of very old comb, is the advice he offers the best to follow? A short time ago I dealt with about thirty old combs, not by the fire, but by the far more economical method of placing them inside a "Gerster" wax-extractor, 10s. 6d. size (the 3s. size is no better than an ordinary saucepan), and after removing the débris and refining the wax obtained over 4 lb. of wax, for which any appliance dealer would give appliances to the value of 5s. 6d., or, if I could sell it to retail customers, I should obtain a shilling or so more in cash.

As a business man, the argument about time being of value is one that appeals very strongly to myself; but, I ask, is not bee-keeping with the great majority a hobby to be followed in our leisure hours for the pleasure of it, as yielding a mine of information, besides the profit to our pockets which it affords?

I enclose a sample of beeswax obtained from the above-mentioned very dark, old combs, and claim that it is of a good colour and of the commercial value named.—THOS. N. HARRISON, Yew Tree Apiary, Carrington, Notts.

OLD COMBS, WAX-RENDERING, ETC.

[7205.] It is very amusing to read of the various complicated and messy devices made use of for rendering old combs into wax. To my mind, the first essential is a square tin dish easily fitting into your kitchen oven (preferably one heating from the top), and a box 6 in. deep with a bottom made of wire milk-strainer. This box should just fit in the tin dish ½ in. only. The old combs should be inverted and packed closely in this box, and the tin dish have some water in to keep all from burning. By this plan I get from 2 oz. to 3 oz. of wax from each old comb without "mess or trouble." On the other hand, I may say that I have lately cleaned out the pollen and re-used all my worker-combs. Even skep combs, after extracting, have been fitted into frames, and I find they answer perfectly. Considering that a fairly clean

empty comb in its frame is easily worth 1s., it would be completely wasteful to burn 150!

I had early this year an old hive that had not been disturbed in any way for over ten years. There were in it six frames 17 in. by 10½ in., the combs being hung parallel to the entrance, and with a broken dummy in the rear, the quilt being partly in the remaining space and filled up with random combs. Early in June I had the bees transferred on to several standard frames of comb. I also cut out four of the old combs full of sealed brood, and fixed them into standard frames and then in with the other combs. From the remaining odd combs I rendered over 1½ lb. of good wax in the way above described without mess and with very little trouble. We are sometimes told that bees from old combs are smaller than from new combs. In this case there is no apparent difference in the size of the bees.—A. H., Wavendon, North Bucks, August 31.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Supersedure Cells (page 263).—Another point in favour of these is that the queens reared in them are usually reared later than swarming-cell queens, and these are therefore not taxed the first year to any extent. But I should like to take issue with "D. M. M." as to their necessary superiority over swarm-cells. Swarm-cells are built under most favourable conditions, and it is by no means certain that "the young larvæ do not receive so copious a supply of royal jelly." At least, there usually appears to be a surplus. And as for the haste and agitation which may cause the bees to "select an over-ripe grub" when swarming—where do they do this thing? My own bees usually rear such queens from the egg!

Swarms of Swarms (page 266).—After all, "Expert, Cheltenham," can hardly grudge the loss of one swarm, as he appears to have had several swarm to his apiary from outside. So that his lost swarm may be only invested for him elsewhere!

Hexagonal Cells (page 276).—Why the majority of bee-keepers who never think about scientific problems should desire clover honey in particular is not clear. Large numbers of them live in lands where clover honey is unknown. Evidently Mr. Bullamore is a clover honey man.

The Choice of a Hive (page 283).—At the Congress a criticism was passed upon Mr. Reid's otherwise very interesting paper in that not much help was given to a would-be chooser. This seemed fair comment, for, except for mention of nearly all the out-of-the way and unsuitable materials which it would be well for the chooser to avoid, it had truth in it. If Mr. Reid has an apiary composed of these archæological relics, it must be of peculiar interest. But is he right in his praise of sheet zinc? It is a most unsatisfactory material for roofs. He pointed out its most glaring fault—which is that it does not make a dry roof, particularly in winter, when most necessary—to which may be added the expansions which sooner or later cause it to crack at the ridge. Also it is no fit resting-place either for the foot of a bee or the hand of a man in the heat of summer; and it is not to be compared with well-painted unbleached calico, which Mr. Reid slights on account of the necessary painting. May I suggest that he should use rather better paint? Or perhaps he has used "driers," which undoubtedly shorten the life of otherwise good paint.

Portland Cement Paint (page 286).—This is quite serviceable stuff, but I doubt if this is due to the qualities of the cement. A smooth finish is of course unobtainable, and for this reason it might be excellent for alighting-boards. For this purpose I have used sanded paint, and for some mechanical reason or other the finished article appears to be exceedingly durable. Perhaps the secret of the Portland paint may be the same.

Carbolic Camphor (page 296).—This compound sounds delightful, and it is a great idea to use it for a mouth-wash and then to subdue the bees with the breath! No more smokers or cloths, and both hands free!

Bees in the Wagon (page 296).—These bees were quiet because of the jolting, and not in spite of it. The motion would tend to subdue them so long as it continued. Indeed, hives might be moved with open entrances, but a halt would be dangerous.

Untouched Sections (page 296).—Here are only some seven or eight reasons why these bees would not adopt the super, almost any one of which would be adequate! Surely there must have been some others which might have been discovered in a thorough examination! But, as Mr. Silver says, the "cause" was quite clear!

Moving Bees (page 297).—If removal is to wait until the last of the old bees has died in the spring, it will be summer! At least, that is my experience, and it is just such long-lived bees that we want for wintering. Move in spring by all means, but be glad of the old bees, which are hardier and better fitted for travel than any just-reared youngsters.

Blooming Buttercups Again.—We shall have crowned heads interested in this

matter soon, for here is Mr. Punch blossoming out with a few flowery remarks on the subject! He says that "as a general rule bees will not be put off with imitation buttercups when the real thing is readily available." The statement is guarded enough for one to see that he has the scientific instinct, but it is an infamous attempt to poison the public mind against buttercup honey! One can only mourn over the editorial sin which permits such an outrage, for, knowing the seaman-ship at the helm of the paper, one would expect the spoken wheel to be twiddle-twaddled aright in a sea of honeyed words, and the tiller of the soil to be handled properly as a matter of course! The life is now quite punched out of this discussion.

Bee Shows to Come.

September 3, 4, and 5, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-six Classes (nine open to all). Increased Prizes and Medals. **Entries closed.**

September 5, at Bramhall. — In connection with Bramhall Horticultural Show. Honey Section under management of C.B.K.A. Liberal prize list for Honey, Extracted or Sections, and Wax. Silver and bronze medals for Local Class. **Entries closed.**

September 5 to 12, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Trades' Sixteenth Annual Exhibition and Market. (See large advertisement on page iv.) **Open to all British Bee-keepers. Entries closed.**

September 9, at Wilmslow, Cheshire.—In connection with Adlington and East Cheshire Agricultural Society. Honey Section under the management of the C.B.K.A. **Entries closed.**

September 12, at Dumfries.—Annual Show of South of Scotland B.K.A. Five Open Classes: 3 Bottles, 20s., 12s., and 6s.; 3 Sections, 15s., 10s., and 5s. (entry 2s.); 1 Bottle, also 1 Section, 5s., 3s., and 2s. (entry free, and exhibits retained unless otherwise agreed upon); Beeswax, 5s., 3s., and 2s. (entry 6d.). Thirteen classes for members. Schedules from Q. Aird, Hardgate School House, Dalbeattie, N.B. **Entries close September 5.**

September 14, at Conway, N. Wales.—Annual Honey Show, in connection with the Conway Honey Fair. Open and Local Classes. Schedules from J. Hughes, Town Hall, Conway. **Entries close September 7.**

September 19 to 26, at the Agricultural Hall, London.—Honey Show in connection with the Sixteenth Annual Exhibition and Market of the Grocery and Kindred Trades. (See large advertisement on page iv.) Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.** Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 23, at Altrincham.—Honey Show in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. Classes for Trophy of Honey, for Best Hive, Observatory Hive with Bees and Queen, twelve Jars of Extracted Honey. Classes open to County of Chester, for Run and Section Honey, Wax, &c., &c. Special Classes for Cottagers, and Special Classes for Society's District. Good prizes, low entrance fees. Schedules from Mr. J. Herbert Hall, 2, Dunham Road, Altrincham. **Entries close September 5.**

October 6 to 9, at the Agricultural Hall, London.—Show of Honey and Bee Produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for Honey. &c Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover Square, London, W. **Entries close September 7.**

October 21 to 24, at Waverley Market, Edinburgh.—Honey show in connection with the Twelfth Annual Edinburgh and Midlothian Industrial Exhibition. All open classes. Beautifully illustrated prospectus, price 2d., from A. Hutchinson, 15, Leith-street, Edinburgh. **Entries close September 30.**

Queries and Replies.

[3780.] *Stimulative Feeding.*—Your valuable advice on the following queries will be greatly appreciated:—1. A few days ago I commenced stimulative feeding, the syrup being given to the bees warm in graduated bottle-feeders at about 7.30 in the evening, the syrup being accessible to the bees through one hole only, and each stock receiving about half a pint. Before placing the feeders on, the bees were perfectly quiet, but soon after they became greatly excited, coming out at the entrance in numbers and crawling all over the side of the hives. A great many of the bees took wing, and, falling on to the ground, perished; others took flight and never returned. This continued for quite a long time, and in consequence a large number of bees were lost. From this experience it appears to me that feeding with warm syrup in the evening is inadvisable, but I would like to have your opinion on the subject. 2. Another great loss of bee-life occurs among my hives through the alighting-boards becoming wet, caused at times by rain and in the early mornings by dew. The bees somehow get stuck fast on their backs, and being unable to free themselves they die. I have counted as many as thirty-five bees dead on the flight-board of one hive that have perished in this way. Is there any preventive against this? 3. Since becoming a bee-keeper I have read and heard a deal about out-apiaries. I should like to establish one myself, but there seems to be so many drawbacks that I am rather afraid of starting one. Would it be asking too much for a few hints on the management of an out-apiary from some kind readers of the B.B.J. who have had practical experience in such work? It would, I feel sure, be very helpful to those who, like myself, are desirous of keeping some hives away from home. I send name for reference.—ROBIN HOOD, Bristol, August 24.

REPLY.—1. It is safe to say that your "graduated" (?) feeder is at fault through being badly made or carelessly fixed in putting on. Anyway, it has caused all the upset and loss of bee-life of which you complain through the syrup running out rapidly over the combs and, maybe, on to the floorboard. If properly adjusted and "leak-proof" the only difficulty is to get the bees up to the feeder to start taking the food with only one hole to feed from, but we have known the syrup to run from all the holes and percolate into the hive below in a steady stream. In such a case the bees would soon become "greatly excited," as yours did. 2. We fear this trouble arises more or less from a fault in the alighting-boards of your hives. At least, it is one that does not trouble experienced bee-keepers. The flight-board should be made slanting upwards as in the hive shown on page 61 of "Guide Book" (Fig. 38), and on such a board the rain or dew runs off freely, so that very few bees are so

long held that they die. This and the overhanging porch are the only "preventives" we know of. 3. We will be very pleased to publish any information that readers will send likely to help our correspondent; but an out-apiary of any extent is very difficult to manage unless there is someone at hand in case of emergency during the swarming season.

[3781.] *Dealing with Black Brood.*—Will you kindly answer the following queries in your next issue? 1. Is it wise to uncap the cells of black brood, or will the bees of their own accord uncap and remove the dead larvæ and rotten matter? 2. Is this trouble difficult to cure, and is there much fear of it devastating an apiary if not properly attended to? 3. Each day a number of young bees are found crawling outside one of my hives. Having examined two or three of them, I find their intestines gorged full of darkish liquid matter. Can you diagnose the trouble from this? The brood in combs all seems to be in a healthy state.—D. H., Abingdon, N.B.

Reply.—1. Not unless the "rotten matter" mentioned is very small in quantity. If otherwise we should burn combs, brood and all. 2. Not so difficult as foul brood, for cases are reported in which the bees cure themselves; but it is destructive in spring and early summer, and, being very infectious at that time, bad cases should not be tampered with. 3. The bees show no signs from which we can diagnose disease; they are simply such as are found cast out of hives at different seasons.

[3782.] *Bees Refusing to Enter Sections in August.*—Two of my stocks have filled up one rack of sections each, and, having taken these away, I replaced them with another rack of empty sections on each hive; but the bees refused to enter them, and are storing the honey in the brood-combs. Not having an extractor, I should feel obliged if you would advise me what course to take. An early reply will much oblige — Lloyd S. Dilley, Lee, S.E., August 21.

Reply.—The refusal of bees to start work in another rack of empty sections plainly indicates that the honey season and brood-rearing for the year are both coming to a close, and, in consequence, the bees are not disposed to re-start comb-building for surplus storing, but are now thinking only of stores for wintering on. This being so, it is best to allow the bees to have any further honey they may gather for their winter food.

[3783.] *Lime Trees as Bee-forage.*—1. Will you kindly inform me through the medium of your paper whether lime-tree honey is a clear honey with good flavour? We have one or two vacant spaces around the garden where a tree might be planted, and I am just wondering which tree would be the most profitable to plant for bees. I have been showing honey at our local shows for some years, and on the whole have been fairly successful, and I should not like to plant any tree the honey from which would tend to spoil a good sample of clover honey. We have no heather in this district, and the honey is gathered chiefly from clover and other blossoms. Inside the garden I am thinking of planting some apple trees. 2. Do cherry trees yield any honey? I shall be glad if you will kindly give me a list of what you consider the best (half-dozen) sorts of trees for bees. —W. A. K., Prestwick, August 25.

Reply.—1. The lime is regarded as one of the best trees for bee-forage, though the honey from its blossoms, in colour and flavour, does not, by a long way, equal that from white clover. 2. In some seasons very large quantities of honey are got from the cherry blossom in some parts of Kent; but this again, though good, is only of second quality for table use. 3. We might name the lime, apples, plums, pears, cherries, and such bush fruits as raspberries, gooseberries, currants, &c.

[3784.] *Books and Where to Procure Them.*—In reference to Editorial "Reviews" in B.B.J. of August 13 (page 321), will you please let me know where I can get the following books to buy:—(1) *The French Garden: A Diary and Manual of Intensive Cultivation;* (2) *Beans*, by R. Lewis Castle; (3) *Chemical Analysis and Composition of American Honeys.* Your reply will oblige—A. Brown, High Blantyre, August 17.

Reply.—(1) *Daily Mail* Office, London, price 6d.; (2) Agricultural and Horticultural Association, Long Acre, London, price 1d.; (3) Superintendent of Documents, Department of Agriculture, Washington, U.S.A. (no price given).

Notices to Correspondents.

C. H. Foord (Hemel Hempstead).—*Heather on Dartmoor.*—We believe that both the common ling (*Calluna vulgaris*) and bell heather (*Erica cinerea*) grow on Dartmoor and Exmoor, so that the bees would have full advantage of the early and later blooming heather. The first-named yields by far the finer honey.

H. E. G. (Jersey).—*Defaulting Traders.*—It is very regrettable to hear of such inexcusable neglect on the part of men who make a business of dealing in bees on the strength of possessing a first-class expert's certificate. The only remedy we see is to put the matter into the hands of the County Court judge, who would soon settle it for you. We are pleased to know that the defaulting expert is not one of our advertisers.

Inquirer (Durham).—*Heaths as Bee-forage.*—1. The sample sent is the best kind for bee-forage, being the common ling. 2. The fact of heather being 600 yards away from your hives will make no appreciable difference to being among the heather.

J. W. S. (Kington).—*Sending Swarms by Rail.*—It is beyond our power to advise you with regard to railway company refusing to entertain your claim for damage to bees in transit. If the company has "definitely declined" to give compensation it becomes a question for legal decision in the County Court, where the judge would hear both sides and decide the case on its merits.

Bowydd (Tanybwlch, N. Wales).—*Swarm not Working Well.*—From what we can see in comb sent, it appears as if the latest queen introduced is a drone-breeder, and that the stock was already afflicted with black brood when requeened. The conditions in which the brood was found were quite abnormal—indeed, extraordinary — three drones being fully developed and nearly ready for hatching out in three worker-cells, the walls of which were broken down in order to hold their bulky occupants, squeezed together as tightly as could be. The comb was crushed and "crumbly" when received, being very brittle through having been only once bred in.

L. Case (Somerset).—*A Beginner's Queries.*—1. If the brood-chambers are well stored with food when packed for wintering, they should need no candy at all. About 25 lb. of sealed stores will be ample. 2. Dry, sunny weather is conducive to honey-storing, but an occasional shower helps the nectar yield in the blossoms visited by bees. 3. Old combs usually contain wax, the skins left by the successive cocoons of bees hatched in the cells, and old, hard pollen. 4. Such combs need melting, either by steam or hot water, and the

wax rising to the surface may be lifted off in a cake when cold.

BEGINNER (Cheshire).—*Wax for Showing.*—1. The wax sent is very good, and quite fit for showing. 2. Sprig of heather sent is the common ling (*Calluna vulgaris*), and is the best for bee-forage.

J. S. (Wirksworth Moor).—*Varieties of Heaths.*—See reply to "Beginner (Cheshire)."

H. KILE (Maidstone).—*Getting Sections Completed.*—If there are only a few cells not capped over we should remove sections at once, or the bees may carry the contents down to the brood-nest.

Honey Samples.

T. R. (Ammanford, N. Wales).—Sample No. 1 is a good clover-honey on all points, but No. 2 is still better, and may be classed as of excellent quality. Your harvest of from 250 lb. to 300 lb. from five hives is very satisfactory, especially if the quality is like samples. Not many do so well after so short an experience, and we are glad to hear that our books and papers have had, as you say, so large a share in the result.

L. MEASURES (Hunts.).—If sample is dark enough for the medium-coloured class, it would stand a good chance on the show-bench. We cannot judge colour accurately from samples sent in very small bottles or glass tubes.

P. DICKINSON (Southport).—Sample is from mixed sources. It is of fair quality, but not up to show-bench standard.

G. E. L. (Lewes).—We may sum up your queries by saying the sample is from white clover and is good on all points; in fact, is fit for any show-bench.

W. B. A. (Wisbech).—Sample is thin and poor in flavour. It is also starting to granulate, and would be liable to ferment if the superfluous moisture is not removed. We advise inserting the vessel in which it now is in hot water, and keeping it at a temperature of 80 deg. Fahr. or so for a day or so. By so doing it will improve in quality, granulate, and keep well.

R. B. D. (Horsham).—The deep golden colour of sample, together with its flavour, probably comes from sainfoin, mixed with clover. It is of very good quality.

**** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

APPLES, choice large cooking and dessert, from 5s. per bushel, gathered fruit; Stocks of Bees, in Skeps, 12s. 6d., 13s. 6d., with stores, 1908 Queen, guaranteed healthy; Stocks, with 10 Standard Frames, Bees, Brood, Stores, 25s.; 8-frame ditto, 23s.; Driven Bees, 5s., 6s. per lot, with fertile Queen.—W. WOODS, Normandy, Guildford. k 28

CHESHIRE'S "PRACTICAL BEE-KEEPING," very rare. What cash offers?—J. d'E. IMAGE, Bury St. Edmunds. k 21

DRIVEN BEES, 5s. lot, no less than 4 lb. sent out, with young Queen; also a few young Queens, 2s. 6d. each.—HARRISON, Bee Farm, Middleton, Pickering, Yorks. k 29

GOOD SECONDHAND HIVES, fitted with Standard Frames, 5s. each; also good Strainer, cheap; also "W. B. C." Body Boxes; also 2 good Stocks of Bees, 20s. each, in wood Hives.—HARRISON, Farm, Middleton, Pickering, Yorks. k 30

DRIVEN BEES, warranted healthy, 5s.; on 4 Frames Comb, and Brood, 10s. 6d.; Queens, 2s. 6d.; Stocks, on 8 Frames, £1; carriage paid; Finest Extracted Honey, 7d. lb.—BLAKE, Knowstone Vicarage, South Molton. k 23

Special Prepaid Advertisements.—*Continued.*

7-LB. BOTTLES LIGHT HONEY. Price according quantity.—DART, Two Mile Ash, Horsham. k 31

3 NEW AND SECONDHAND EXTRACTORS, 6 Honey Tanks, 1 Honey Press, to clear cheap.—S. CRAWFORD, Castledry, Ireland. k 17

DRIVEN BEES, heavy lots made up, 6s.; Queens, 2s.; Extracted Light Clover Honey and Dark Honey, what offers? Sample.—NEWMAN, Expert, Hazelbury Bryan, Dorset. k 27

QUEENS, choice 1908, bred from my Non-Swarming Stocks, 3s. 6d. each, safe arrival guaranteed.—TAYLOR, Hollyhurst, Boldmere-road, Wylde Green, Birmingham. k 32

ENGLISH HONEY, light colour, £3 cwt.; tins free; sample 2d.—H. MAY, Kingston Blount, Wallingford. k 19

HEALTHY BEES, 1s. 3d. lb.; box 6d.; grand young Heather Queens, in cage, 2s. 6d.; Heather Honey and Sections.—HOOD, 9, Marine-parade, Whitby. k 16

FINEST NORTH WOLD CLOVER HONEY, £3 per cwt.; also 4-frame Nuclei, 12s. each.—SMITH, Hope House, Caistor. k 26

2 1908 FERTILE BLACKS, splendid workers, exceptionally hardy, 4s.—Rose Cottage, Burley-in-Wharfedale. k 33

HEALTHY DRIVEN BEES, 4s. 6d. lot. Send Skeps Godstone Station.—Write RICHARDS, Thurlby, Wallington. k 18

GRAND CLOVER HONEY, 1-lb. screw-cap Bottles, 9s. dozen, carriage paid. Sample, 2d.—HOWLETT, Stratford House, Tring. k 24

"GARSTANG" HEATHER PRESS, equal to new. Will accept 20s.—HEPWORTH, Newmillerdam, Wakefield. k 22

ORIGINAL "RYMER" HEATHER HONEY PRESSES FOR SALE, acknowledged the best in the market for durability and capacity for work, will extract 112 lb. of honey in thirty minutes, 2 gallons of juice from elderberries in twenty minutes, just as pulled from trees, stalks and all; for Honey, Fruit, &c., cannot be equalled. Prices, with galvanised boxes and crates, 55s. each, plain 50s. each.—Apply, R. HUTTON and SONS, Whitby, Yorks. k 20

FOR SALE, cheap, together or separately, strong stock Bees, "W. B. C." Hive, Broodchamber practically full honey.—J. B. DAVIES and SON, Ironmongers, Neath. k 25

HEALTHY DRIVEN BEES, with Queen, 4s. lot.—HIGLEY, 15, Mason-street, Kidderminster. k 34

GLAZED SECTIONS WANTED. State price. Must be light and new; Honey and Sections of all descriptions received for sale on commission.—THE HONIELADE CO., 23, Moorfields, E.C. j 94

LARGE PACKET SEEDS, "Chapman's Honey Plant," very fine Autumn Flower for Bees, 1s. each.—HARRY SCORE, Lathom, Ormskirk. k 1

HEALTHY DRIVEN BEES, 200 lots for sale, 5s. lot.—DENNETT, Great Bee Farm, Whitchurch, Hants. k 5

WANTED, Sections and Honey in bulk. Sample and lowest price.—HERROD and STEWART, Apiary, Luton.

HEALTHY DRIVEN BEES, 5s. per lot, cash with order; boxes returnable.—G. A. GILLETT, Moreton-in-Marsh. k 15

FINEST CLOVER SECTION HONEY, in card cases, 8s. 6d. dozen, in 2-dozen crates, returnable, carriage paid.—L. MEASURES, Tilbrook Grange, Kimbolton. j 46

Special Prepaid Advertisements.—*Continued.*

WANTED, to Rent or Lease Cottage, with acre garden or orchard; good Bee district.—Apply Z., c/o BRITISH BEE JOURNAL. j 92

CROCUS BULBS, 100 1s. 3d.; Arabis Alpinus, 25 6d., free.—BRAYSHAW, Aultmore, Keith. j 88

GUINEA HONEY EXTRACTOR, quite new, for 15s. 6d.; Glasses, for Glazing Sections, 4¼ by 4¼, 1s. 9d. 100.—HEWETT, Alton, Hants. k 2

"AINWICK" FEEDER, suitable for all seasons, rapid or stimulative, price 6d.; postage of one costs 3d., two 4d., six 6d., dozen 10d.—J. BALMBRA, East Parade, Ainwick. j 96

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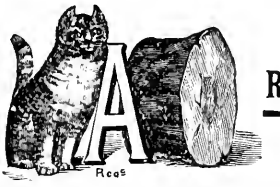

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THE

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

REGISTERED FOR TRANSMISSION AS A NEWSPAPER.] [ENTERED AT STATIONERS' HALL.

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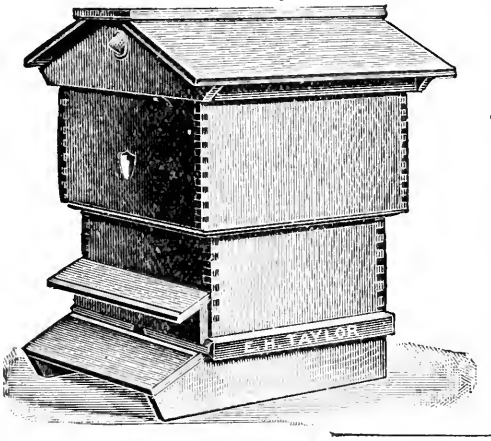

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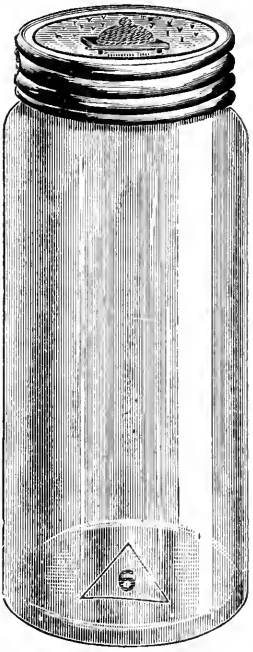

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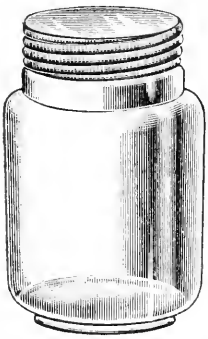

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Editorial, Notices, &c.

THE CONFECTIONERS AND ALLIED TRADES' EXHIBITION.

HONEY SHOW AT THE AGRICULTURAL HALL.

The sixteenth annual International Exhibition and Market of the Confectioners and Allied Trades commenced on September 5 at the above hall, and remains open till the close of the present week.

The honey competitions were again staged in the North Gallery Annexe, and made up an imposing display, as might be expected from the increased number of entries compared with last year. It was gratifying to all concerned to see so large a collection of high-class bee-produce as that shown in the two classes for light and medium coloured honey, nearly a thousand 1-lb. jars of extracted honey of fine quality being staged in these two classes alone, while there could not be less than six hundredweight of comb honey shown in the various classes.

The fine trophies of honey staged in attractive form for a tradesman's window looked very well indeed, and well merited the liberal prizes given to four of them. Indeed, the same may be said of every department of the honey section, the classes for heather honey both in sections and jars making up a better display than we have seen for several years, though Scotch heather honey was again conspicuous by its absence—much to the regret of everyone.

The rule adopted at these exhibitions—according to which prize-winners at the "Confectioners'" are debarred from exhibiting in the same classes at the forthcoming "Grocers'"—is eminently useful in spreading the prizes over a greater number of competitors. In other words, it gives a chance for a completely different set of good bee-men who, if a little behind the leading prize-winners, are worthy of recognition. It will therefore be interesting to see who the newcomers will be at the next show, which opens on the 19th inst.

Mr. W. F. Reid, Addlestone, Surrey, and Mr. W. Broughton Carr, London, officiated as judges, and made the following

AWARDS.

Outfit for Beginners in Bee-keeping (3 entries).—1st, Abbott Bros., Southall. (No 2nd or 3rd awarded.)

Display of Honey (Comb and Extracted) and Honey Products, shown in suitably attractive form for a tradesman's window (6 entries).—1st (£4 and B.B.K.A. Silver Medal), Jas. Lee and Son, London and Cambridge; 2nd (£3), R. Brown and Son, Somersham, Hunts; 3rd (£2), W. J. Kitson, Stanstead, Essex; 4th (£1), J. Pearman, Derby; v.h.c., J. Herrod, Sutton.

Twelve 1-lb. Sections (21 entries).—1st (£1 15s. and B.B.K.A. Bronze Medal), A. W. Weatherhogg, Willoughton, Lincoln; 2nd (£1 5s.), Jas. Lee and Son; 3rd (15s.), R. Brown and Son; 4th (10s.), E. C. Wareing, Staverton; 5th (5s.), W. F. Fake, Great Massingham, King's Lynn; v.h.c., W. J. Kitson, and Mrs. E. Sopp, Crowmarsh, Wallingford; c., Mrs. E. Ford, Leyton, Essex.

Twelve 1-lb. Heather Sections (9 entries).—1st (£1), J. Pearman; 2nd (15s.), W. Dixon, Leeds; 3rd (10s.), W. Ridley, Monkswearmouth; v.h.c., T. Marshall, Sutton-on-Trent; h.c., E. C. Wareing.

Three Shallow-frames of Comb Honey for Extracting (10 entries).—1st (£1), A. Young, Chatham; 2nd (15s.), Jas. Lee and Son; 3rd (10s.), W. J. Kitson; v.h.c., O. Frankenstein, Regent's Park, and E. C. R. White, Newton Toney, Salisbury; h.c., R. Brown and Son.

Twelve 1-lb. Jars Light-coloured Extracted Honey (43 entries).—1st (£1 15s. and B.B.K.A. Certificate), J. Herrod; 2nd (£1 5s.), R. Lloyd, Thetford, Norfolk; 3rd (15s.), S. J. S. Leigh, Broughton, Hants; 4th (10s.), Jas. Lee and Son; 5th (5s.), A. Weatherhogg; v.h.c., H. D. W. Andrews, Amersham, Bucks; R. Brown and Son; J. Boyes, Cardiff; H. Lindley, Market Rasen; G. Deller, Chrishall Lodge, Royston; A. J. Brocks, Stockbridge, Hants; and W. J. Kitson; h.c., F. W. Fake; R. Morgan, Cowbridge, Glam.; J. W. Cook, Binbrook, Market Rasen; E. Church, Cardiff; and R. Godson, Tothill, Alford; c., Mrs. E. Sopp; W. Roberts, Llangoed, South Wales; J. Woods, Mansfield; and A. G. Pugh, Beeston, Notts.

Twelve 1-lb. Jars Medium-coloured Extracted Honey (36 entries).—1st (£1 5s.), A. J. Brocks; 2nd (£1), J. Herrod; 3rd (15s.), C. E. Billson, Kettering; 4th (10s.), J. M. Best, St. Austell; v.h.c., R. Brown and Son; J. Southwell, Lockerly, Hants; A. Firkins, Malvern; P. E. Grinstead, Sussex; and G. T. Lynds, Longfield Hill, Kent; h.c., W. Dixon; F. W. Frusher, Crowland, Peterborough; and G. Marshall, Norwell, Notts; c., W. Roberts; C. Greenhill, Wimbledon.

Twelve 1-lb. Jars Dark-coloured Extracted Honey (9 entries).—1st (15s.), A. Young; 2nd (10s.), Jas. Lee and Son; 3rd (5s.), J. Southwell.

Twelve 1-lb. Jars Heather Honey (8 entries).—1st (£1), T. Sleight, Danesmoor, Chesterfield; 2nd (15s.), E. C. Wareing; 3rd (10s.), O. Frankenstein; h.c., J. Pearman.

Twelve 1-lb. Jars Heather-blend Honey (6 entries).—1st (£1), J. Pearman; 2nd (15s.), A. Young; 3rd (10s.), W. Dixon;

4th (5s.), J. Herrod; v.h.c., O. Frankenstein; h.c., W. Sproston, Great Haywood.

Twelve 1-lb. Jars Granulated Honey (14 entries).—1st (£1 5s.), O. Frankenstein; 2nd (£1), Jas. Lee and Son; 3rd (15s.), J. Herrod; 4th (10s.), W. J. Kitson; v.h.c., R. Morgan; h.c., J. Boyes.

Beeswax, judged for quality of wax only (11 entries).—1st (£1), E. C. R. White; 2nd (15s.), J. Trineman, Lostwithiel, Cornwall; 3rd (10s.), R. Brown and Son; 4th (5s.), R. Lockwood, Nazeing, Essex; v.h.c., Jas. Lee and Son.

Beeswax in Cakes, Quality of Wax, Form of Cakes and Package, suitable for retail counter trade (8 entries).—1st (£1), J. Pearman; 2nd (15s.), Mrs. Harris, High Ferry, Boston; 3rd (10s.), E. C. R. White; 4th (5s.), A. Young; v.h.c., Jas. Lee and Son.

Selling Classes (5 entries).—Certificates granted to I. D. James, A. Weatherhogg, C. J. Roberts, F. W. Gelder, Turpin and Son.

SHROPSHIRE B.K.A.

ANNUAL SHOW AT SHREWSBURY.

This association held its annual show, in connection with that of the Horticultural Society, in "The Quarry," Shrewsbury, on August 19 and 20, the large tent containing the exhibits being crowded with visitors during both days. A much larger display was made than last year, and the judges reported that they had rarely, if ever, seen such quality before. In some of the classes the entries were so large and of such excellent quality that the committee decided to give extra prizes. The class for single 1-lb. jar of extracted honey produced forty entries, and the class for twelve 1-lb. jars extracted (open) had thirty entries. The total weight of honey staged reached 2,231 lb. The Rev. T. J. Evans, Rock Ferry, and Mr. A. Watkins, Hereford, officiated as judges, and made the following awards:—

OPEN CLASSES.

Twenty-four 1-lb. Sections.—1st, J. Carver, Wellington; 2nd, S. Cartwright, Shawbury; 3rd, P. Jones, Church Stretton.

Twelve 1-lb. Sections.—1st, J. Clay, Wellington; 2nd, J. G. Nicholson, Langwathby; 3rd, R. H. Baynes, Cambridge; v.h.c., F. C. Pullen, Warminster; h.c., Miss M. Wilson, Canfield, Essex.

Twenty-four 1-lb. Jars Extracted Honey.—1st, R. Morgan, Cowbridge; 2nd, J. W. Cook, Binbrook, Lincs; 3rd, J. Clay; v.h.c., J. Boyes, Cardiff; h.c., S. Cartwright.

Twelve 1-lb. Jars Light Extracted Honey.—1st, R. W. Lloyd, Thetford, Norfolk; 2nd, J. Clay; 3rd, R. Morgan; 4th, H. C. Barlow, Stoke-on-Trent; v.h.c., W. Gaulton, Wistonswick, J. W. Cook, E. Church, Cardiff, and R. H. Baynes; h.c., J. Boyes, and C. H. Bocock, Newmarket; c., F. C. Pullen, and A. Hamer, Carmarthen.

Twelve 1-lb. Jars Medium-coloured Honey.—1st, Miss E. Little, Shrewsbury; 2nd, J. Carver; 3rd, H. Dilworth, Shangton, Leicester; v.h.c., B. W. Oakes, Broseley, and H. C. Barlow.

Twelve 1-lb. Jars Dark Honey.—1st, B. W. Oakes; 2nd, A. J. Hoare, Trevallard, Cornwall; 3rd, F. W. Frusher, Crowland, Lincs.

Single 1-lb. Jar Extracted Honey.—1st, S. Cartwright; 2nd, H. W. Saunders; 3rd, R. Morgan; v.h.c., W. H. Brown, W. Gaulton, R. W. Lloyd, C. R. Smith, W. J. Cooke, and R. H. Baynes.

Single 1-lb. Section.—1st, J. Clay; 2nd, P. Jones; 3rd, W. H. Brown; v.h.c., Mrs. W. Powell, Longley, Shawbury, and H. W. Saunders.

MEMBERS' CLASSES.

Twenty-four 1-lb. Sections.—1st, J. Carver; 2nd, P. Jones.

Twelve 1-lb. Sections.—1st, J. Clay; 2nd, P. Jones; 3rd, J. Davenport, Wheatley.

Twenty-four 1-lb. Jars Extracted Honey.—1st, J. Carver; 2nd, S. Cartwright; 3rd, H. W. Lamb, Albrighton; v.h.c., Mrs. J. W. Powell and P. Jones; h.c., Miss Edwards, Grinshill.

Twelve 1-lb. Jars Extracted Honey.—1st, E. Brookfield, Myddle; 2nd, S. Cartwright; 3rd, W. Gaulton; v.h.c., J. Carver and P. Jones.

Twelve 1-lb. Jars Medium-coloured Extracted Honey.—1st, J. Clay; 2nd, P. Scott, Broseley; 3rd, F. W. Norris, Sheaves, Church Stretton.

Twelve 1-lb. Jars Dark Extracted Honey.—1st, P. Jones; 2nd, R. Holland, Wellington.

ARTISAN MEMBERS' CLASSES.

Twelve 1-lb. Sections.—1st, E. Brookfield; 2nd, W. Rowley; 3rd, J. Hammond, Hope Bowdler; v.h.c., W. Passant, Baschurch.

Twelve 1-lb. Jars Extracted Honey.—1st, L. Powell, Longley, Shawbury; 2nd, M. Strang, Shrewsbury; 3rd, J. Mills, Shavington Gardens, Market Drayton; v.h.c., W. Rowley, Bomere Heath; h.c., E. Brayne, Strawardine.

Six 1-lb. Jars Extracted Honey.—1st, E. Brookfield; 2nd, W. Rowley; 3rd, M. Strang; v.h.c., W. Passant and J. Mills; h.c., G. E. Miles, Baschurch.

COTTAGER MEMBERS' CLASSES.

Six 1-lb. Sections.—1st, J. Bright; 2nd, Jaspar Jones, Church Stretton; 3rd, T. Croxton, Hope Bowdler.

Single 1-lb. Section.—1st, J. Bright; 2nd, Jaspar Jones; 3rd, T. Croxton.

Twelve 1-lb. Jars Extracted Honey.—

1st, J. Chetwood, Moneley; 2nd, G. Croxton, Grinshill; 3rd, J. Bright, Cardington.

Six 1-*lb. Jars Extracted Honey.*—1st, J. Chetwood; 2nd, J. Bright; 3rd, R. Blakemore, Bayston Hill; v.h.c., G. Croxton.

Single 1-*lb. Jar Extracted Honey.*—1st, J. Chetwood; 2nd, R. Blakemore; 3rd, G. Croxton; v.h.c., J. Bright; h.c., Jaspar Jones.

OPEN CLASSES.

Collection of Bee-appliances. — 1st, W. P. Meadows, Syston; 2nd, Messrs. Little and Cooper, Shrewsbury.

Complete Frame-hive.—1st, W. P. Meadows; 2nd, Little and Cooper; v.h.c., W. P. Meadows; h.c., T. Davis and Son, Abergwili.

Honey Trophy.—1st, W. H. Brown, Admaston; 2nd, J. Carver; 3rd, P. Scott, Broseley.

Beeswax.—1st, R. Morgan; 2nd, J. Berry, Llanrwst, North Wales; 3rd, W. F. Trineman, Saltash, Cornwall; v.h.c., F. W. Norris; h.c., A. J. Hoare.

A bronze medal was awarded to Mr. J. Carver for an invention for glazing sections. The silver and bronze medals of the B.B.K.A. were won by Mr. J. Carver, and the certificate by Mr. Brookfield.—S. CARTWRIGHT, Hon. Sec.

WARWICKSHIRE B.K.A.

ANNUAL SHOW.

The Warwickshire Bee-keepers' Association's annual show was held, in conjunction with that of the Warwickshire Agricultural Society, at Solihull, on August 26 and 27, when nearly a ton of excellent honey was staged. Last year was a disastrous one for the bees, but this year their industrious foraging has been richly rewarded. Mr. W. Herrod, F.E.S., judged the honey exhibits, and made the following awards:—

Observatory-hive with Bees (Foreign) and Queen.—1st, E. H. Taylor, Welwyn, Herts.

Observatory-hive with Bees (English) and Queen.—1st, George Franklin, Burton Green, Kenilworth.

Three Shallow-frames of Comb Honey.—1st, Joseph Frewing, Berskwell.

Fifty 1-*lb. Sections.*—1st, A. D. Melson, Hitherbrome, Lapworth.

Twelve 1-*lb. Sections.*—1st, T. Reynolds, Tile Hill.

Twelve 1-*lb. Jars Extracted Honey.*—1st, William Duffin, Rugby.

Exhibit of Extracted Honey.—1st, Mrs. W. Craven Jones, Shustoke.

Super Honey from One Hive.—1st, James Tandy, Barston.

Thirty-six 1-*lb. Sections.*—1st, Miss Roberta Haine, Shipston-on-Stour.

Twelve 1-*lb. Sections* (cottagers).—1st, Miss Roberta Haine.

Twelve 1-*lb. Jars Extracted Honey* (cottagers).—1st, A. L. Robinson, Tanworth-in-Arden.

Honey Trophy.—1st, George Franklin.

Six 1-*lb. Sections and Six* 1-*lb. Jars Extracted Honey.* — 1st, J. Grimley, Erdington.

Collection of Hives and Appliances.—1st, E. H. Taylor.

Beeswax.—1st, A. L. Robinson.

The prizes were distributed by Mrs. F. E. Mintz, wife of the Agricultural Society's president.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[7206.] We are now in chill September, and our aim must be to prepare for next year's season. It may seem early to talk of next year, but, without prophesying anent the weather, we bee-keepers have to look ahead and make provision for 1909 long before it arrives. Those of us whose hives are honey-clogged should at once remove and extract the contents of two outer frames, leaving an inch or so along the top of the combs under the top-bar when uncapping them. Give an empty comb in the centre of brood-nest; then bruise some of the capped honey around the little patches of brood, where found in the combs. When the uncapped honey is extracted, return the two combs to centre of brood-nest. This should be done after sundown, when the bees have ceased flying for the day, so that by next morning the bees will have cleaned up the wet combs, and no robbing will be started. On the other hand, where nearly all honey has been stored in supers, and the bee-keeper has appropriated the same, rapid-feeding should become the order of the day until sufficient food is stored to carry the colony through the winter.

Using the Super-clearer.—In the case of "Heather, Sidmouth" (7193, page 325), it is evident that the cause of his pierced sections was, as our Editors' footnote suggests, "rough handling when putting the clearer on the hive." I have taken off many thousands of sections by the use of the "Porter" escape boards, and rarely had

a section pierced by the bees. In my case whenever it has happened it has been when the rack of sections is firmly fixed to the brood-combs, requiring the use of a screw-driver to prise it up. When operating I always use the carbolised cloth—the smoker only in extreme cases. I put the clearer on a box by the side of the hive, and—standing at the back of same—place the cloth loosely shaken out and one end resting on the rack of sections, give it a twist, and lift it quickly off the hive, allowing the cloth to fall on the top-bars of brood-combs when doing so (or the unfinished rack of sections if there is one below); place the rack of sections on the clearer, pick off the cloth (which should have driven below every bee), lift the rack along with clearer on the hive before the bees have time to come up over the frames and then become exasperated. Many use smoke at the hive-entrance before they begin. I never do; in fact, there is no need for it.

Foul Brood Act for Ireland.—The text of the Act in B.B.J. of August 20 shows how drastic are the powers conferred on the inspector when empowered by authority. Who, I ask, appraises the value before destruction? The owner, or the officer, or a third party? It has become the law in Ireland, and I trust it may be administered in the interests of bee-keepers, and be more successful than similar Acts have been in Canada. I wonder if more than one in ten bee-keepers in the Green Isle knew of the Bill before it became law?

Birds and Fruit.—My home-apiary is located on a plot of land planted with fruit trees, and every season I am troubled with birds, and as the years pass I think the birds increase in numbers; blackbirds, thrushes, and starlings, sparrows ever on the alert for bees, tits in abundance for insects, and a small light brown bird (whitethroat?) which is very fond of fruit—raspberries, gooseberries, and currants. These little birds are very bold, and will get inside and clear trees which are tied up with old window curtains after the fruit is cleared. I do not see them till another season. Just now the blackbirds and thrushes are gorging on the ripening plums, and before the rain came spoiled many apples, pecking holes in them on the trees. Last year we had a heavy crop of plums, and hundreds of starlings came at 7 in the morning and at 4 in the afternoon every day for a feast. The bees never interfere with or attempt to sting a bird, except on one or two occasions (years apart). I have known sparrows stung to death when they have got entangled by a foot getting between the hive and extended alighting-board.—W. Woodley, Beedon, Newbury.

BEE-CULTURE IN WALES.

[7207.] I spent my annual holiday this year during the month of August at that most bracing of seaside resorts on the North Wales coast, Rhyl, whence on my bicycle I made frequent excursions into the surrounding country. One day I attended the Agricultural Show at Corwen, and was pleased to find a bee-tent in the centre of the ground, in which Mr. David Roberts, an enthusiastic and experienced bee-keeper from Llanelidan, Ruthin, was lecturing on bee-keeping in the Welsh language to a large and interested audience. At his request, I joined the lecturer in the tent, and helped him to drive a skep of bees. When I spotted the queen the lecturer had no box in which to place her majesty for inspection, but when I placed my hand before her she crawled on to it in a most gracious manner, and remained almost stationary till she was seen and admired by all around the tent and had been photographed! This was Mr. Roberts's first appearance as a lecturer, but he seemed quite at home in the tent, and his lecture and demonstration were much appreciated. I hope his services will in the future be secured in other Welsh-speaking districts. Wales, with its wealth of bee-forage, especially clover and heather, is an ideal country for bee-keepers, but I was surprised to find so few modern hives in the district which I visited during my holiday. At the Flintshire and Denbighshire Show this year the honey-classes were cancelled at the last moment owing to lack of entries, but the Chester Show last week had some very good samples of Welsh honey from those counties. At the present time in North Wales there is, I believe, only one county bee-keepers' association —viz., in Anglesea, where I have been invited to lecture on two occasions. There are signs that Wales is waking up to the advantages of modern bee-keeping, and now that the bee-tent has arrived I hope we shall soon hear of great strides forward in more than one county. I am also sending you a cutting from a New Zealand paper, sent me by a brother who is located there, which I think will interest your readers as showing the possibilities of the bee-industry in that part of the world.—(Rev.) T. J. Evans, Lecturer to Cheshire County Council, Rock Ferry, September 1.

BEE-KEEPING IN NEW ZEALAND.

Mr. W. Lenz, the leading bee-keeper in New Zealand, and probably the most successful man in the business in Australasia, has his apiaries in the Mosterton district. He has 900 hives in all, located in one home and eight out yards, these

(*Correspondence continued on page* 366.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

The following useful bee-notes sent by our reverend friend need no addition from us. He says:—

"That the bee-fever is an infectious disease is a fact well proved by my own experience. It was while watching one of my parishioners manipulating his bees in his garden that I caught the fever; the way in which he handled the combs of bees filled me with a keen desire to be able to do as he was doing. It is to Mr. Tuplin, of Nettleham, in this county, and to the 'Bee-keepers' Guide Book' that I owe any knowledge of the craft that I may possess. Late in the year 1904 I purchased a skep of bees for 12s., and early in the following April I began the interesting process of allowing the bees to transfer themselves down into a frame-hive. To the person starting for the first time to keep bees the many kinds of hives seem to puzzle him; but one thing is clear—choose one kind and stick to it. To my mind, no type of hive is so satisfactory as the 'W. B. C.,' for every part is interchangeable, and bees with me in this cold part of the fens winter best with double walls.

"When I began with bees I had an old gardener fully imbued with all the superstitions of old-fashioned bee-keeping, and, being a perfect novice myself, he wished to help me, but to his simple mind keeping bees in a modern hive was 'one of them new-fangled things,' and he was anxious that I should have imparted to me his store of bee-lore. Consequently I was instructed in the art of rattling the frying-pan and the door-key when a swarm came off, and if I happened to be away from the garden on such an occasion he would religiously remain near the apiary ringing the dinner bell until my return. To 'tell the bees' before I went away, to talk to them while at work in the garden or about the hives, were lessons in the craft I had drummed into me. These bee-superstitions die hard in our county. I well remember, when organising some lectures for my parishioners, how one man was furious with the lecturer for casting doubt on these old-time superstitions.

THE REV. HUBERT LARKEN'S APIARY, COWBIT ST. MARY, LINCOLNSHIRE.

"However, my study of the ways of other bee-keepers and the 'Guide Book' soon convinced me that such information was valueless.

"I am firmly convinced that in bee-keeping it pays to keep everything as clean as possible. Floorboards should be scraped and washed early in the spring when the days are warm and there are no risks of brood chilling. Here, where moths are numerous, a piece of naphthaline tucked under quilts and supers is a detail not to be overlooked. Nothing, to my mind, will prevent bee-disease so much as due care paid to cleanliness.

"One of my first swarms lodged in a thick privet hedge, and to all appearances the task of hiving the bees seemed insurmountable. By cutting out a portion of the hedge and placing a skep over the swarm, aided by a few puffs from the smoker below the cluster, and then leaving them, I was able in an hour or two successfully to hive it. The picture shows my apiary in the heart of the fens, within a couple of hundred yards of the famous Cowbitt Wash, so dear to the skater. Bee-forage is ample, but of a coarse kind, which often makes the honey dark in colour, and consequently unfit for the show-bench.

"Part of the parish is for five months of the year under water, leaving the land often impregnated with the seeds of rough grass and covered with stagnant reed. In spite of this, I have managed to take some prizes locally with my honey. Whether viewed as a hobby or as a source of income, the craft of bee-keeping is one of intense interest and pleasure; this pleasure is always enhanced by gaining a convert and by helping him."

(*"Bee-culture in Wales," continued from page* 364.)

being situated in a radius of some fifteen miles. Mr. Lenz's success is not due so much to the extent of his operations as to his methodical methods of management and his drastic treatment of foul brood. His apiaries are maintained in a very healthy state. Breeding queens are imported from the best breeders of Italian bees. A queen is never allowed to get over two years of age, this being a great factor in the prevention of swarming. Some of the apiaries are only visited four times in the year, and then only to collect the honey and put the hives right for winter. This infrequent visiting of the out-apiaries is rendered possible by only young queens being used and the breaking up of the brood-nest before swarming-time. Thus the labour in management is reduced to a minimum.

Mr. Lenz is not only a producer of honey, but manufactures all his hives, fittings, and foundation, having special machinery for the purpose. Thus the cost of production is reduced to the lowest possible basis.

Perhaps the most interesting thing in Mr. Lenz's method of management, and a matter in which he probably leads the world, is the unique use he makes of a motor-car. He has a ten-horse motor for visiting his out-apiaries. But he uses it for another more important purpose. In the extracting season he takes his extractor on his motor-car to the various out-yards, and fits it up in a calico extracting-house. The car is backed up, jacked off the ground, a pulley is fitted on to one of the back wheels, a belt connected between the pulley and the extractor, and the power is thus applied to rapidly extract the honey. This is up-to-date bee-keeping with a vengeance.

In the season Mr. Lenz can turn out 30 cwt. of honey a day, and his annual output has reached 33 tons. And so fine is the quality of the honey, and so well is it marketed, that Mr. Lenz can sell every ounce he produces at a satisfactory figure; in fact, he cannot supply the demand.

THE YORKSHIRE SHOW.

BEE-TENT LECTURES AT HALIFAX.

[7208.] I should be glad if you would be kind enough to correct in your next issue an error in the last paragraph of your report of the bee-department at the Yorkshire Agricultural Society's show at Halifax with regard to the work at the bee-tent. The lecturer was the Rev. R. M. Lamb, rector of Burton Pidsea, Hull. Mr. Lamb was appointed lecturer for the Halifax Show by the Yorkshire Bee-keepers' Association, and any help Mr. Lamb received in his work at the tent was of a purely mechanical nature. I have no concern as to the source from which your report came, but it is due to Mr. Lamb that the misleading statements in it should be corrected.—SIDNEY SMITH, Secretary Yorkshire B.K.A., Wheldrake Rectory, York, September 5.

[We gladly insert the above correction, and if our esteemed correspondent will be good enough—as hon. secretary of the Yorkshire B.K.A.—to furnish us a few lines of report of future shows of his association it will remove the risk of such "misleading statements" as he justly complains of. We say this because for several years past no report of the honey show held in connection with the Yorkshire Agricultural Society has appeared in our pages. Who is to blame we cannot say, but it is regrettable when so important a show is not reported.—EDS.]

SUPERFLUOUS DRONE-COMB.

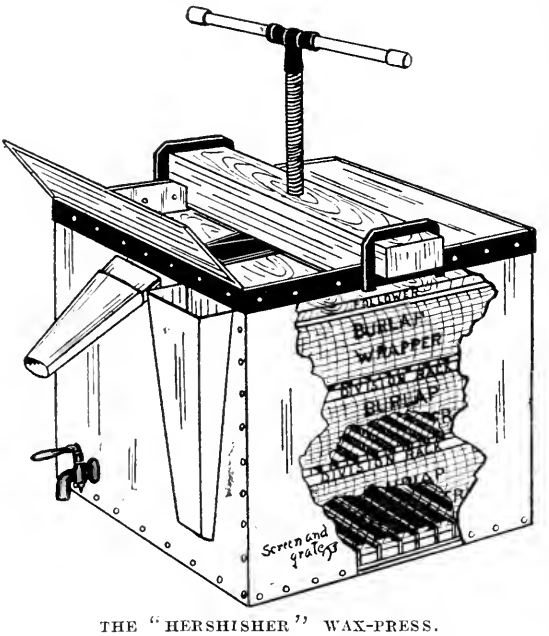
[7209.] Since writing you the other day asking when and how to remove superfluous drone-comb, I have taken the opportunity of examining the hive and have removed the drone-comb. I have a hive with a non-swarming chamber, and found that the bees had built drone-comb below on to the brood-frames. I had carelessly never looked in here after removing some shallow-frames not touched by the bees in the middle of June; it shows one cannot leave anything to chance. The frames contained only a few drone-cells. I send name for reference.—ISO, Barnes, S.W., September 4.

SUSSEX BEE-KEEPERS' ASSOCIATION

The Sussex Bee-keepers' Association, which was re-established this year, has been honoured by the Marquis of Abergavenny, K.G., accepting the office of president. The association is progressing as well as was anticipated, the members now numbering about sixty. Sussex does not favour leaps and bounds with its institutions, steady progress being the county characteristic, and this gradual extension among the best bee-keepers of the county is a token that the association has come to stay. While hard work and considerable expense have been incurred in the launching of the association, there is much to be done before its full usefulness can be attained. With the growth of members and finances the association is in hopes of striking out in several directions, in propaganda work and instructive guidance in the art of bee-keeping. In many parts of the country the County Councils and similar associations aid with grants, so that the honey-making industry can be brought prominently before the public. If the Sussex County Councils assisted the Sussex Bee-keepers' Association in some such way the organisation would soon be in evidence by exhibits and demonstrations at flower shows and similar displays where bee-keepers might be found anxious for help and guidance. One outward and visible sign of the association will soon be noticeable. The enthusiastic and practical hon. secretary, Mr. W. Edwards, of Wilmington, Hassocks, will shortly be in a position to supply members with the approved labels of the association for their honey. These labels will designate the real Sussex honey produced by members of the association, and to all intents and purposes will be a guarantee that the honey so labelled is the real article. The label will also make the fact known far and wide that there is now in existence a Sussex Bee-keepers' Association, and bee-keepers should be keenly alive to the advantages of combination and become members.—(*Communicated.*)

THE "HERSHISHER" WAX-PRESS.

The illustration seen below represents a wax-press made by the G. B. Lewis Co., of Watertown, Wis., U.S.A. It consists of a strong rectangular metal boiler provided with a funnel for filling it with water and a spout near the top as an outlet for the wax. Across the top is a thick bar of wood inserted in two loops, and through this bar a screw works on a follower, by means of which pressure can be exerted. A rack of steel bars set on edge is placed on the bottom, and over this a woven-wire screen. On the latter—after surrounding them with canvas—are placed the refuse combs, which are shaped by means of a cheese-box provided for the purpose. Three layers of the combs so shaped can be put in for pressing at one time, a slatted wooden division-rack provided on the bottom with wire screens being placed between each layer. The follower is put in on the top, the boiler filled to nearly the level of the spout, and the whole heated until the water comes to a sharp boil. By turning the screw, pressure can be exerted and the wax pressed out, when on pouring boiling water into the funnel at the side the wax will flow out at the spout. After compression for five to ten minutes the pressure is released, and the mass allowed to absorb water for a few minutes; the pressure is then applied again, and the process repeated eight to ten times, the screw being turned down a little further each time. It is claimed that by this method practically all the wax can be extracted. This press is similar in principle to the one described on page 65 of "Wax Craft," but is square instead of round.



THE "HERSHISHER" WAX-PRESS.

WEATHER REPORT.

WESTBOURNE, SUSSEX,
August, 1908.

Rainfall, 3·47 in.
Heaviest fall, ·96 in. on 31st.
Rain fell on 13 days.
Above average, ·92 in.
Sunshine, 255·1 hours.
Brightest day, 1st, 14·1 hours.
Sunless days, 1.
Above average, 38·3 hours.
Maximum temperature, 78° on 7th.
Minimum temperature, 41° on 12th.
Minimum on grass, 35° on 12th.
Frosty nights, 0.
Mean maximum, 68·8.
Mean minimum, 51·6.
Mean temperature, 60·2
Maximum barometer, 30·365 on 3rd.
Minimum barometer, 29·523 on 28th.

L. B. BIRKETT.

AUGUST RAINFALL.

Total fall, 4.65 in.

Heaviest fall in 24 hours, 1.05 in. on 31st.

Rain fell on 14 days.

W. HEAD, Brilley, Herefordshire.

Bee Shows to Come.

September 12, at Dumfries.—Annual Show of South of Scotland B.K.A. Five Open Classes. **Entries closed.**

September 14, at Conway, N. Wales.—Annual Honey Show, in connection with the Conway Honey Fair. **Entries closed.**

September 19 to 26, at the Agricultural Hall, London.—Honey Show in connection with the Sixteenth Annual Exhibition and Market of the Grocery and Kindred Trades. (See large advertisement on page iv.) Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.** Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 23, at Altrincham.—Honey Show in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. **Entries closed.**

October 6 to 9, at the Agricultural Hall, London.—Show of Honey and Bee Produce in connection with the British Dairy Farmers' Association. **Entries closed.**

October 21 to 24, at Waverley Market, Edinburgh.—Honey show in connection with the Twelfth Annual Edinburgh and Midlothian Industrial Exhibition. All open classes. Beautifully illustrated prospectus, price 2d., from A. Hutchinson, 15, Leith-street, Edinburgh. **Entries close September 30.**

Queries and Replies.

[3785.] *Bees Robbing and Fighting.*—Since the weather broke (about August 24) a determined attack of robbing has been made on one of my hives. Every precaution that guide-books suggest has been taken, viz.: Entrance contracted; strip of glass put up in front of entrance with handfuls of wet grass at ends; tunnel made at flight-hole with wood blocks half an inch apart, and a lath put on top; carbolic cloth spread on alighting-board; hive regularly sprayed with carbolic solution, and robbers and ground round hive drenched with carbolic solution; but all was useless. The bees made a good fight, but seemed to give up the combat to-day (September 1); and so I determined upon an examination. At 8 p.m. I stripped hive, removed two racks of sections, and found that, with the exception of a few drones, the hive's brood-chamber was deserted; the queen and every worker-bee had disappeared! The whole ten standard frames were without brood of any sort, but all contained nice slabs of sealed stores. Only nine out of forty-two sections were partially drawn-out, and these contained unsealed honey, useless for any purpose, and were given to the bees on adjoining stand on top of a "Smith" Canadian super-clearer with eight escapes, and, of course, with the shutter open in the hole at side. The remaining thirty-three sections, filled with full sheets of foundation, were untouched. Unfortunately, fighting is now going on at my other hives. All of the operations in question were done at night or before 5 a.m., when no bees were flying, and certainly no sweets were ever spilt or exposed. I notice that my bees (got from England in June, 1907) have a propensity to rob and fight with each other whenever there is a spell of broken weather. Perhaps you will answer the following questions in your next issue? 1. What would cause the disaster to the first-mentioned hive as described? 2. Would worker-bees join the robbers, and what became of the queen? 3. How can this robbing be stopped at the other hives? 4. What causes this robbing, as heather is in full bloom and forage plentiful everywhere? 5. Did I do right to give the unfinished sections to another stock to clean up? 6. How shall I deal with the frames of honey in the brood-nest, seeing that I have no extractor? Could they be given to the bees in other hives in spring with advantage, or should the cappings be scratched or bruised to cause leakage and given to the other hives on top of super-clearers early in October?—CHAS. DUNLOP, Glaister, Arran, N.B.

REPLY.—We can only suppose that the attack of robbing had got into full swing before decisive measures were taken to stop it. It not seldom happens that if bees are allowed to pass a certain stage in plundering, nothing short of closing the hive attacked entirely will stop it. It is probable that when the attacked bees found themselves unable to resist the robbers they joined forces with them and helped in carrying off their own stores to the hive of the marauders.

[3786.] *Leaving Supers on all Winter.*—I shall be very much obliged if you will kindly give me your advice in the following circumstances:—Through ill-health I am obliged to be away from home for some months. I have three hives with two supers on each, and the only helpers I have who could take the supers off for me know nothing at all about bee-management, and I am afraid of accidents. Is it a possible thing to leave the supers untouched on the hives until Christmas or—if it is wiser—until next spring, when the severe weather is over? I really do not know what is wisest under the circumstances. I could get the supers taken off, though, as I say, I have no *experienced* help near; but even then the honey would have to be left in the supers, and the latter packed away until my return at Christmas, when, I suppose, the honey would have granulated and could not be extracted. If I leave it on the hives it would, I suppose, keep better; but in that case also I suppose it will granulate with the cold weather, and I shall not be able to extract. Please tell me what you think is the best plan for me to follow, considering that I

have no help at hand and cannot be home to take the honey until Christmas. No sections, only shallow-frames. I shall be most obliged for your help. Name sent for reference.—O. C. G., Babbacombe, Torquay, September 1.

REPLY. — Under the circumstances named we should leave the supers where they are till you return; by so doing the risk of accidents will be avoided, and it may be that when examined the bees will be all the better for having the honey as food.

[3787.] *Re-queening Vicious Stocks.* — Having a vicious and rather ill-tempered stock of bees, and being obliged to keep them close to the public highway, I resolved to introduce a "Golden Italian" queen, and three weeks ago I removed the old queen, and after twenty-four hours placed the new queen, with a few attendants, on the top of the frames in the cage in which I received her from the dealer. After three days she was liberated by the bees eating their way through the candied sugar in the end of the small cage in which I received her. After a fortnight I found the alien queen thrown out of the hive dead! I should feel greatly obliged if you could explain in the B.B.J. why this should have happened, as I find the "Golden" queen had left an abundance of brood and eggs. I send name, &c., for reference.—PERPLEXED, Eyam, Derbyshire, August 27.

REPLY.—We cannot enlighten you on the cause of the queen's death from the few details given, beyond saying that a stock so vicious as the one in question might be expected to destroy anything from the mother-bee downwards. Better try them with one of the young native queens now to be had cheaply, and if you got a pound of driven bees along with the queen it would make her safe, if all the bees are well dusted with flour when uniting.

[3788.] *Starting Bee-keeping.*—I shall consider it a favour if you will enlighten me on the following questions through your valuable paper, of which I am an interested reader:—1. Is there a living to be made from bee-farming alone? 2. How much capital in your opinion would be required to start a farm? 3. Is there a ready market for the honey? 4. What part of the year is the best time to commence? 5. Do you advise selling honey in comb or in liquid condition?—E. S. T., Barnet, Herts.

REPLY.—1. We do not advise anyone to rely on bees alone for a living in this country, though some men, specially qualified, have done and are doing it. It is better to connect it with some other branch of small farming. 2. Some could start well with £150, but much depends on the size of place required and amount of stock needed for the venture. 3. Honey selling is largely a question of business aptitude. We hear of men who can sell more honey than they can produce, while others can produce and fail to find a market. 4. The spring. 5. Produce both comb and extracted honey, and see which you have most demand for.

[3789.] *A Beginner's Queries.*—I am anxious to start bee-keeping in a small way, and should be glad if you will answer the following questions in your "Queries and Replies" column of the B.B.J.:—1. Is autumn a good time to make a beginning? 2. What is the best kind of hive for a beginner to manage? 3. Where would you recommend my getting the bees? Name sent for reference.—BEGINNER, Clevedon.

REPLY. — Instead of trying to help you in this column as desired by answering the queries enumerated, the best advice we can offer is to get a copy of the "Guide Book," wherein is a whole chapter devoted to the subect of "Starting an Apiary" (pages 145 to 151), and your several questions are dealt with in it more fully than we can find space for in this column.

[3790.] *Wintering and Ventilation.* — I have a 3-in. "eke" for each of my London-made "W. B. C." hives, and notice that certain specialists recommend the placing of these "ekes" between floor-board and brood-chamber in order to provide efficient ventilation during wintering, the "ekes" to be removed in spring. Do you recommend this, and would not bees fill the "ekes" with comb? Our climate in Arran would not permit of unpacking before end of May at soonest.—CHAS. DUNLOP, Glaister, Arran, N.B.

REPLY.—As the designer of the hive in question, it should hardly be necessary to ask if we recommend the use of the "eke" referred to. As a matter of fact, we naturally get a bit "ruffled" when we see users of the "W. B. C." hive too careless to put the "eke" to its proper use in winter. There need be no fear of the bees filling it with comb, or we should have found out so serious a defect long ago. There are several other useful purposes which the "eke" serves besides the one in question.

[3791.] *Forming Nuclei.*—Eight weeks ago I removed a few frames and the old queen from one of my hives to form a nucleus, and there is now a good quantity of brood in the latter. In the parent hive, however, there is the young queen, rather a small one, but no trace of brood or eggs. 1. Can you explain this? There is an abundance of food, but a number of empty cells where the queen might deposit her eggs. It is a stock of hybrids, which has done very well this season. 2. Would you advise re-queening at once?—R. F., Birmingham, September 5.

REPLY.—1. We should like to know why the old queen was removed when forming the nucleus colony, and where the latter was placed when formed, because this is against all rule for such an operation. It is probable that the failure of the young queen reared in the parent stock is attributable to her being raised from a larva too old for a prolific queen to be expected therefrom. 2. It seems plain that the young queen mentioned is useless, and if the stock is strong we should requeen it at once.

[3792.] *Curious Appearance about Bees.*—On examining my hive to find the queen, I found that she had three small formations like sealing-wax at the top of the wings. I have also noticed for a long time that some of the worker-bees have the same appearance, but only one formation. Will you kindly say in the B.B.J. if this is a sign of age, or what is the cause of it?—THOS. W. BRADLEY, Swindon, September 1.

REPLY.—We cannot make out what small formations like sealing-wax "at the top of the wings" of a queen-bee can possibly mean. If you will forward a bee with the "formations" attached we will do our best to make clear the cause of trouble, otherwise we are helpless, though we suspect a parasite known as *Braula cœca*, or blind louse, as being meant.

[3793.] *Naphthol Beta Solution — Finding Queens.*—The "Guide Book" (page 194) states that the naphthol beta solution is made in "pure methylated spirit." Now, pure spirit is not, I believe, "methylated"; neither is "methylated" spirit "pure." I therefore ask: 1. Would *good* methylated spirit as supplied by a chemist answer? Last year I got a chemist to make up the solution according to "Guide Book" recipe, and he supplied a brown, sherry-coloured solution, which I used, and, as far as I know, with no ill effect. Judging by his charge he did not use pure spirit, and so I assume he used methylated spirit. 2. The question of how to distinguish a queen from a worker-bee is often easy enough, but sometimes a beginner like myself is in doubt. Will you help me by saying if a queen-bee ever has on her posterior legs the stiff hairs which are so useful to the workers? If not, here is a decided difference

and a test applicable as long as the legs remain. —H. E. G., St. Heliers, Jersey.

REPLY.—By "pure methylated spirit" is meant pure spirit of wine slightly methylated as sold by ordinary chemists. Pure spirit of wine can be sold only by the very few chemists who hold a spirit licence. The need, therefore, for using methylated spirit simply arises from the difficulty of obtaining pure spirit of wine, and the fact that the small quantity of methyl required to avoid the need of a licence does not harm the bees when used as directed.

Notices to Correspondents.

*** *The Dairy Show.*—The Secretary to the British Dairy Farmers' Association, 12, Hanover Square, London, W., writes to say an entry of honey has been received for the Dairy Show from Saltash, but the form gives no name or address of the sender.

MRS. T. J. S. (Worthing).—*Early Granulation of Honey.*—It is quite a common thing for honey to granulate a month after being gathered. In fact, that gathered from the fields of mustard grown for seed in Lincs often granulates hard in a fortnight after being taken from the hives.

Honey Samples.

IVY (St. Austell).—Sample is from mixed sources, chiefly clover; except for being rather thin, it is fair honey for market.

R. E. G. (Feltham).—Will do if shown in "medium" class at local show. Sample is too dark for "light" class.

ISO (Barnes).—Both samples are only of poor quality as table honey. They are from mixed sources, largely from weeds that yield nectar.

****Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

WANTED, 1 CWT. HONEY (Light), in tins, delivered.—SMITH, Llanellen Court, Abergavenny. k 46

100 GOOD STOCKS BEES, in nearly new Hives, with plenty Stores, from 20s. to 30s. each, some in "W. B. C." Hives, healthy.—HARRISON, Bee Farm, Middleton, Pickering. k 40

GOOD HEATHER HONEY, 8s. stone; sample 8d.; a few good secondhand Hives, from 5s. each.—HARRISON, Farm, Middleton, Pickering, Yorks. k 41

WANTED, loan good Honey Press, option of purchase entertained.—EDWIN GLOSSOP, Ambergate. k 39

WILL EXCHANGE LADY'S 18 ct. GOLD WATCH, in perfect order, for 2 Stocks of Bees, in Frame Hives, or sell £3. Approval.—SHAW, Queen-street, Ironville, Derbyshire. k 35

DRIVEN BEES, 3 strong lots, out of Frame Hives, 5s. each; also 2 lots on 8 Frames, 1908 Queens, 11s. each, packed; all guaranteed free of foul brood.—METCALFE, Follifoot, Harrogate. k 52

FIRST PRIZE NORTHAMPTONSHIRE LIGHT COLOURED HONEY, in screw cap bottles, 9s. 6d. per dozen; sample 2d. Cash or Deposit.—TRUSS, Ufford, Stamford. k 38

WANTED, 2 lots of Driven Bees (Italians), not less than 4 lb. weight, more preferred. State lowest price with Queen.—LLOYD, Butcher, Valley. k 43

BOOKS WANTED.—Cheshire's "Bees and Bee-Keeping," 2 volumes, by—JOHN DAVIS, 13, Paternoster-row, London. k 61

Special Prepaid Advertisements.—*Continued.*

DRIVEN BEES, 3s. Stock; non-returnable boxes, cash with order.—WADEY, Broadstone, Dorset. k 45

GLAZED SECTIONS, 10 dozen first quality, 8s. 6d. dozen, carriage paid.—F. G. DRAKE, Belgrove, Enham, Andover. k 47

12 VOLS. "BEE JOURNAL" (1895-1906), unbound, clean, 10s.—DAVIS, Station House, Wraysbury, Staines. k 44

9 CWT. PRIME HAMPSHIRE HONEY, Extracted, in 28-lb. tins, 58s. cwt., free on rail; tins returnable; sample, 3d.—T. G. HILLIER, Hurstbourne Tarrant, Andover. k 50

YOUNG SUSSEX and ENGLISH GAME COCK, price 5s.; also Barrett's Magic Bottle, cost 25s., take 15s., only used once.—MARSH, Baytree Cottage, Polegate. k 42

HIGH-CLASS MICROSCOPE, very powerful, coarse and fine adjustment, 2 objectives, mahogany case, splendid condition, 60s.—L. WAKEFIELD, Blackmore Lodge, Bromsgrove. k 36

3-FRAME NUCLEUS, 1908 Queen, 9s.; Queens from 3s. 6d. Extracted Honey.—WOODHAM, Clavering, Newport, Essex. k 38

GOOD LOT DRIVEN BEES, on 6 frames, in excellent Hive; Queen laying, 10s. 6d.—MULLEY, Filey. k 48

WANTED, samples and price of Honey per cwt.—COLLINGE, The Green Apiary, Leyland, near Preston. k 49

WANTED, YOUNG QUEENS (1908), from healthy Driven Bees; will supply cages.—Number and price to BOCOCK, Ashley Apiaries, Newmarket. k 51

DRIVEN BEES, with Queen, 5s. lot, package free; Fertile Queen, in cage, 2s. 2d.; "Little Wonder" Extractor, good condition, 6s.—ROLLINS, Stourbridge. k 57

DRIVEN BEES, warranted healthy, 3s. 6d. lot, package returnable.—CADMAN, Codsall Wood, Wolverhampton. k 56

FOR SALE, or EXCHANGE FOR BEE APPLIANCES, 3 pure bred Brown Leghorn cockerels.—W. DAWSON, Codsall, Wolverhampton. k 58

DRIVEN BEES, 3s. 6d. lot, 1s. 3d. lb.; box returnable, carriage paid.—BARNES, Beekeeper, Burwell. k 53

DRIVEN BEES, headed by 1908 Queens, 4s. and 5s. per lot, f.o.r.—BROWN, Expert, Admaston, Wellington, Salop. k 55

2 HEALTHY STOCKS, 5 Hives, Racks, and Accessories, £3.—NEWTON, 29, Evelyn-road, Richmond, Surrey. k 60

23RD SEASON.—HEALTHY DRIVEN BEES, with young fertile Queens, 1s. 3d. lb., in 4-lb. or 5-lb. lots; young Queens, 2s. each, in introducing cages; boxes returnable or charged for.—R. BROWN and SON, Flora Apiaries, Somersham, Hunts. k 59

HEALTHY DRIVEN BEES, 4s. per lot; Skep, 6d.; or in 5-Frame Nucleus Hive, 2s. 6d., returnable; spare Queens, 2s. each. Cash with order.—GORDON, Bassingbourn, Royston, Cambs. k 54

10 CWT WILTSHIRE HONEY, splendid quality, 50s. per cwt., or 48s. per cwt. for the lot. Send for sample. Deposit.—R. R., BEE JOURNAL Office.

GLAZED SECTIONS WANTED. State price. Must be light and new; Honey and Sections of all descriptions also received for sale on commission.—THE HONELAIDE CO., 23, Moorfields, E.C. k 62

NAPHTHOL BETA, pure, sixpenny and shilling packets, enough for 60, or 150 lb. Autumn Feeding Syrup.—Apply, "Gulmarg," St. Heliers, Jersey. k 37

Special Prepaid Advertisements.—*Continued.*

APPLES, choice large cooking and dessert, from 5s. per bushel, gathered fruit; Stocks of Bees, in Skeps, 12s. 6d., 13s. 6d., with stores, 1908 Queen, guaranteed healthy; Stocks, with 10 Standard Frames, Bees Brood, Stores, 25s.; 8-frame ditto, 23s.; Driven Bees, 5s., 6s. per lot, with fertile Queen; 1908 Fertile Queens, 2s.—W. WOODS, Normandy, Guildford. k 28

1-LB. BOTTLES LIGHT HONEY. Price according quantity.—DART, Two Mile Ash, Horsham. k 31

3 NEW AND SECONDHAND EXTRACTORS, 6 Honey Tanks, 1 Honey Press, to clear cheap. —S. CRAWFORD, Castledry, Ireland. k 17

HEALTHY BEES, 1s. 3d. lb.; box 6d.; grand young Heather Queens, in cage, 2s. 6d.; Heather Honey and Sections.—THOS. HOOD, Pickering. k 16

ORIGINAL "RYMER" HEATHER HONEY PRESSES FOR SALE, acknowledged the best in the market for durability and capacity for work, will extract 112 lb. of honey in thirty minutes, 2 gallons of juice from elderberries in twenty minutes, just as pulled from trees, stalks and all; for Honey, Fruit, &c., cannot be equalled. Prices, with galvanised boxes and crates, 55s. each, plain 50s. each.—Apply, R. HUTTON and SONS, Whitby, Yorks. k 20

HEALTHY DRIVEN BEES, with Queen, 4s. lot.—HIGLEY, 15, Mason-street, Kiddermin-ster. k 34

HEALTHY DRIVEN BEES, 200 lots for sale, 5s. lot.—DENNETT, Great Bee Farm, Whit-church, Hants. k 5

WANTED, Sections and Honey in bulk. Sample and lowest price.—HERROD and STEWART, Apiary, Luton.

HEALTHY DRIVEN BEES, 5s. per lot, cash with order; boxes returnable.—G. A. GIL-LETT, Moreton-in-Marsh. k 15

WANTED, to Rent or Lease Cottage, with acre garden or orchard; good Bee district.—Apply Z., c/o BRITISH BEE JOURNAL. j 92

CROCUS BULBS, 100 1s. 3d.; Arabis Alpinus, 25 6d., free.—BRAYSHAW, Aultmore, Keith. j 88

GUINEA HONEY EXTRACTOR, quite new, for 15s. 6d.; Glasses, for Glazing Sections, 4½ by 4½, 1s. 9d. 100.—HEWETT, Alton, Hants. k 2

"ALNWICK" FEEDER, suitable for all seasons, rapid or stimulative, price 6d.; postage of one costs 3d., two 4d., six 6d., dozen 10d.—J. BALMBRA, East Parade, Alnwick. j 96

MAHOGANY SHOW-CASE, to take one Shallow Frame, 4s. pair.—BURTT, Gloucester. j 32

WANTED, SECTIONS FOR CASH, first quality.—State quantity to W. CHILTON, Southdown Apiaries, Polegate. j 51

LOOK! LOOK! LOOK! Genuine "W.B.C.," with 10 Frames and Rack of Sections, 15s., fitted with wired Foundation, 19s.; Cottage Hive Fittings, as above, 9s. 6d. to 13s. 6d.; Driven Bees like these Hives. Try one now. —SOUTHERN BEE SUPPLY CO., Hellingly, Sussex.

"THE PREPARATION OF HONEY AND WAX FOR THE SHOW BENCH," post free 7d.—JOSEPH TINSLEY, Chebsey, near Stafford. h 24

VARIABLE SEASONS.—The "S. J. B." tested and guaranteed Queens, producing the best of workers. Unqualified success. Safe delivery guaranteed. 4s. 6d. each.—BALDWIN, Apiary, Bromley, Kent.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

Special Prepaid Advertisements.—*Continued.*

SECTION GLAZING.—Best quality Lace Paper, made especially for Bee-keepers' use, not common box edging, white, 100 6d., 300 1s. 4d., 500 2s. 3d., 1,000 3s. 9d., post free; blue, green, or pink, 100 7d., 300 1s. 6d., 500 2s. 6d.; Lace Bands, 2⅜in., 3in., and 3½in. wide, white, 100 1s. 2d., 200 2s. 3d., 500 4s.; a few in pink and blue, 100 1s. 4d., 200 2s 6d.—W. WOODLEY, Beedon, Newbury.

ITALIAN QUEENS, direct from Italy. — E. PENNA, Bologna, Italy, from July to October, one Queen, 3s. See advertisement in "B. B. J.," July 30.

SLADEN'S

"BRITISH GOLDEN" BEE.

Fertile tested 1908 Queens, 10/6 each, post free.

Young Fertile English Queens .. .. .. 3/6 each.

American Golden Fertile 1908 Queens .. 6/6 each.
Pure Imported Italian Fertile Queens .. 5/6 each.
Pure Imported Carniolan Fertile Queens.. 8/6 each.

These Queens are imported direct from their respective native countries, and will produce pure workers.

For full particulars see Sladen's Complete Catalogue of Bees and Queen-Rearing Appliances.
Bees and Queens Exported.

F. W. L. SLADEN, RIPPLE COURT APIARY, near **DOVER.**

SPLENDID THIN GLASSES FOR SECTION GLAZING.

1/11 per 100, 500 8/9. Lace Paper, 6d. 100, 3/6 1,000.

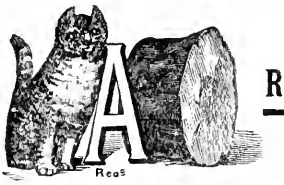
Glazed Section-cases, 1s. 6d. doz.; Extractors, Ripeners, &c. Having bought quantity finest 1-lb. Screw-cap Honey Bottles, show quality, sloping shoulders, I offer at following low prices: 15s. 6d. gross, 3 gross at 14s. gross; usual price 18s. 6d.

BE READY FOR BEE-DRIVING. HIVES IN FLAT.

Best and most accurate. Catalogue free.

W. R. GARNER,

"Beatall" Hive Works, DYKE, BOURNE.

NEW  **READY**

MANY NOVELTIES.

Post Free on application.

MEADOWS, Syston, Leicester.

BEE-KEEPERS' PRACTICAL NOTE-BOOK.

THIRD EDITION NOW READY.

Containing Rules for the General Management of Movable Comb Hives.

By THOMAS W. COWAN, F.L.S., &c., &c.

Price 1/-; Postage 1d.

BEE JOURNAL AND RECORD OFFICE,
8, Henrietta St., Covent Garden, W.C.

R. STEELE, Wormit Works DUNDEE,

Sole Agent for CHAS. DADANT & SONS, of America, who are the largest Makers of Comb Foundation in the World.

The Foundation made by them is PERFECT and unequalled for purity, toughness, regularity, and transparency, and always gives satisfaction.
SAMPLE LB., in box, post paid, Brood **2/6** Super **3/-**; a 5 lb. box, Brood **10/6**; Super **13/4**.

SPECIAL LINE. **STEELE'S "HEATHER" HIVE.**

Complete with 10 Frames, 1 Crate of Sections, roof covered with Zinc, 12/6; 6 for £3 3s.
CATALOGUE FOR 1908 FREE.

Hives made to any design or in the flat a speciality. | Why buy wood from the timber-merchant when you can buy the Hive in the flat at same price?

SUCCESS

Marks our new and improved method with

FOUNDATION,

and each post brings us congratulations. Test it and prove for yourself.

THE "S. J. B. APIARY," BROMLEY, KENT.

HIVES AND BEE APPLIANCES. **C. REDSHAW,** SOUTH WIGSTON, near LEICESTER.

BEST GOODS AT MODERATE PRICES.

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THE

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

REGISTERED FOR TRANSMISSION AS A NEWSPAPER.] [ENTERED AT STATIONERS' HALL.

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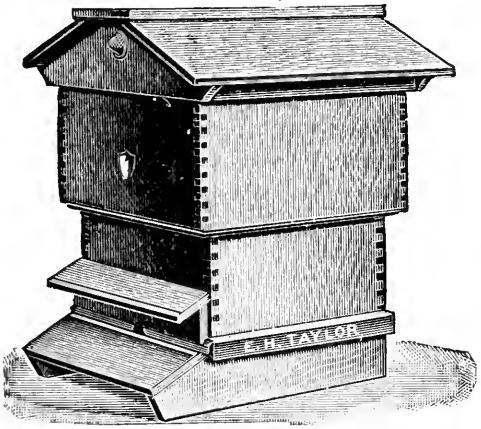

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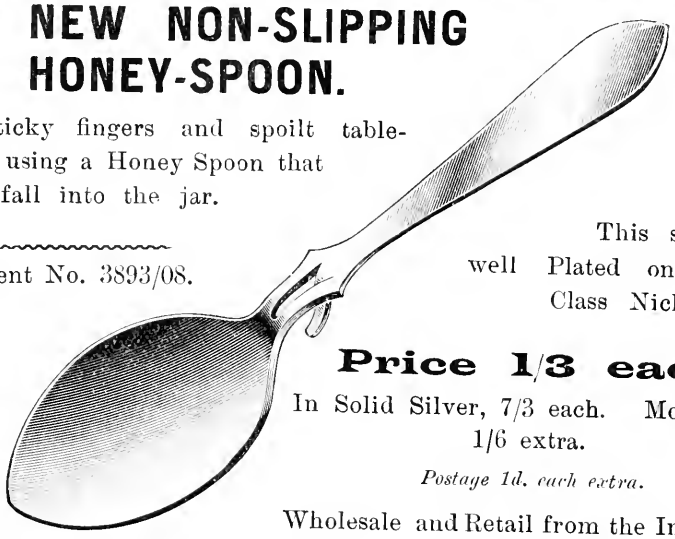

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Editorial, Notices, &c.

SURREY B.K.A.

SHOW AT THE CRYSTAL PALACE.

The annual show of the Surrey Beekeepers' Association was held at the Crystal Palace on September 3 and two following days, and was, as usual, an entire success. The entries in the twenty-six classes were over 200, and, as may be supposed, the quality of the bee-produce staged was—thanks to an excellent honey season—greatly superior to that of last year, some fine samples being shown. The first seventeen classes (confined to members only) were well filled and the competition very keen, showing the interest taken in the show by members. The leading attraction of the display (not for competition) was the fine educational exhibit made by the hon. secretary, Mr. F. B. White, which was this year larger than usual and looked exceedingly well.

The Rev. R. M. Osmaston, Dover, and Mr. A. J. Carter, Billingshurst, officiated as judges, and made the following awards:—

MEMBERS' CLASSES.

Twelve 1-lb. Sections.—1st, A. P. Short, Thornton Heath; 2nd, E. Bontoft, Caterham Valley; 3rd, W. E. Hamlin, Surbiton; c., A. T. Hedger, Esher.

Six 1-lb. Sections.—1st, A. P. Short; 2nd, W. Welch, Cranleigh; 3rd, C. F. Wakefield, Charlwood; h.c., A. T. Hedger; c., A. Bylett, Haslemere.

Six 1-lb. Sections Heather Honey.—1st, Miss Unwin, Churt; 2nd, W. A. Woods, Guildford; 3rd, A. Baines, Bagshot; h.c., A. Seth Smith, Cobham; c., G. E. Bullen, Cobham.

Three Shallow-frames Comb Honey for Extracting.—1st, A. P. Short; 2nd, J. Lamboll, Chiddingfold; 3rd, E. Bontoft; c., A. Seth Smith and C. T. Wakefield.

One Shallow-frame Comb Honey.—1st, H. Webber, Anerley; 2nd, S. R. Whitley, Lingfield; 3rd, A. Seth Smith; h.c., E. B. Shewbridge, Kingswood.

One Standard Frame Comb Honey.—1st, C. H. Moulton, Lingfield; 2nd, S. R. Whitley; 3rd and h.c., C. F. Wakefield; c., W. T. Palmer, Redhill.

Twelve 1-lb. Jars (Light) Extracted Honey.—1st, P. W. Worsfold, Shalford; 2nd, C. F. Wakefield; 3rd, E. Bontoft; h.c., M. J. Lamboll, and T. Chater, Wallington; c., Mrs. A. Johnson, Wallington; W. Bourne, Esher; and A. P. Short.

Six 1-lb. Jars (Light) Extracted Honey.—1st, P. W. Worsfold; 2nd, C. H. Moulton; 3rd, C. T. Wakefield; h.c., A. E. C. Mumford, Redhill, and A. P. Short; c., T. Chater.

Six 1-lb. Jars Heather Honey.—1st, M. J. Lamboll; 2nd, G. E. Bullen; 3rd, A. Seth Smith; c., G. C. Bullen.

Six 1-lb. Jars Heather-blend Honey.—1st, G. C. Bullen; 2nd, A. Baines; 3rd, A. Seth Smith; c., E. Dean, Shirley.

Six 1-lb. Jars (Dark) Extracted Honey.—1st, E. B. Shewbridge; 2nd, F. B. White; 3rd, E. Dean; c., Mrs. E. Bisset, Wallington, and Miss Wickham-Jones, South Norwood.

Six 1-lb. Jars Granulated Honey.—1st, A. P. Short; 2nd, F. B. White; 3rd, C. F. Wakefield.

Six 1-lb. Jars Granulated Honey, Heather or Heather-blend.—1st, A. Seth Smith.

Display of Bee-products.—1st, A. P. Short; 2nd, A. E. C. Mumford.

Beeswax.—1st, A. P. Short; 2nd, C. H. Moulton; 3rd, C. Wakefield; h.c., T. Chater.

Articles of Food Containing Honey.—1st, A. E. C. Mumford; 2nd, Miss Wickham-Jones.

Six 1-lb. Jars Extracted Honey (novices only).—1st, E. B. Shewbridge; 2nd, Miss Cobrane, Windlesham; 3rd, A. Brooke, Wotton; c., C. L. M. Eales, Wallington.

OPEN CLASSES.

Six 1-lb. Sections.—1st, E. C. R. White, Salisbury; 2nd, A. Rose, Sturminster, Newton; 3rd, A. Brightwell, East Liss; h.c., J. Fairall, Hellingly; c., Miss M. Grieve, Hythe.

Six 1-lb. Jars (Light) Extracted Honey.—1st, T. H. E. Watts Silvester, Sturminster Newton; 2nd, W. J. Pritchard, Andover; 3rd, H. W. Saunders, Thetford; v.h.c., G. F. O'Fflahertie, Isle of Wight; h.c., C. R. White, G. F. O'Fflahertie, and A. Rose; c., F. Pickersgill, Oakham.

Three Shallow-frames Comb Honey.—1st, E. C. R. White; 2nd, A. Brightwell; 3rd, C. H. Curling, Chiswick.

One Shallow-frame Comb Honey.—1st, C. Greenhill, Wimbledon

Beeswax.—1st, J. Rowland, Pwllheli; 2nd, E. C. R. White; 3rd, H. W. Saunders; v.h.c., A. S. Hoare, Saltash; c., T. Earl, Crawley.

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Complete Frame-hive, price not to exceed 15s.—1st, Jas. Lee and Son; 2nd, C. Greenhill; 3rd, E. H. Taylor.

Outfit for Beginner in Bee-keeping.—1st, C. T. Overton and Son; 2nd, Jas. Lee and Son; 3rd, E. H. Taylor.

Demonstrations were given in the beetent by Mr. C. T. Overton on each day of the show.—(*Communicated.*)

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of August, 1908, was £3,570.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

OWNERSHIP OF SWARMS.

A LEGAL OPINION THEREON.

By E. A. C. Lloyd, Barrister-at-Law.

From time to time certain legal queries have appeared in the columns of this journal with reference to the ownership in swarms, and also with regard to a bee-keeper's right of recovering swarms which may have alighted on another person's property. It is with the desire to enlighten bee-keepers on these points that the lines which follow have been written.

The law relating to bees is of very ancient origin, our own law on the subject being based on the Roman law. Under the Roman law bees were classed as among animals *ferœ naturæ*, and were, like other animals, *res nullius* until they were captured, and it is as such that they remain to-day under our own law. In animals *ferœ naturæ* a man can have only a qualified property, and such can only be obtained by reclaiming them and making them tame, or by so confining them within his own immediate power that they cannot escape and use their natural liberty. This right of property in them only subsists so long as the animals are kept by him in actual possession—that is to say, if they escaped again and recovered their natural liberty his property in them instantly ceased, unless they have what is called *animum revertendi*, such as a tame hawk has.

By the Roman law the mere presence of bees on a person's land did not make them his, and if another hived the bees he became the owner, subject perhaps to an action for trespass if he entered on the ground in an illegal manner!

By our law the property in bees which have been hived and reclaimed is in the owner of the ground on which they have swarmed, and not in any person who may hive them. The Charter of the Forest (9 Hen. III., c. 13) expressly allows every freeman to take honey found within his woods. It has been said that the only ownership in bees is *ratione soli*, and the words of this charter certainly seem to afford great countenance to this doctrine. Reclaimed bees, therefore, are the subject of larceny at common law, and trespassing captors cannot make good a right to bees or honey which they may have seized. Wild bees in a bee-tree have been held to belong to the owner of the soil where the tree stands, and it has also been held that the finding of a tree on another person's property and marking it with the finder's initials does not make a reclamation. Both Bracton and Blackstone seem to agree that reclamation is necessary in order to obtain property in bees.

Bracton says: "Though a swarm lights upon my tree, I have no more property in them until I have hived them than I have in the birds which make their nests thereon, and therefore if another hives them he shall be their proprietor; but a swarm which fly from and out of my hive are mine, so long as I can keep them in sight and have power to pursue them." So you see if bees while unreclaimed alight on a tree they belong to the owner of the tree, but if they have been reclaimed and have taken refuge there the property in them remains in their owner, if they can be identified. The fact that they are temporarily astray, and that their owner cannot pursue them without infringing another's rights by trespassing or the like, will not affect his right of property, and an action would, therefore, lie for their unlawful detention or destruction. In questions of succession it has been laid down that bees in a hive are considered to be so appropriated to, and necessary for, the enjoyment of the inheritance that they accompany the land, and go to the heir and not to the personal representative, and that the destruction of such animals would in law be waste.

In an American case bees have been held to be in the same position as other domesticated animals, not rendering their owner liable for accidental injury apart from negligence. In the case in question a horse had been stung to death. Unfortunately, there is no authoritative English decision on the point. In all probability a carrier would be exempt from liability for injury caused by bees stinging, that being an inherent vice, provided no negligence was established against him. But he will be liable if the injury is primarily due to his want of care in not remedying an obvious defect.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

SWARMS V. DRIVEN BEES.

[7210.] The comparative merits of these two classes of bees, when obtained to fill up the blanks in our apiaries or to

increase our stock, deserve full and careful consideration. Every year a very large number of swarms are sold, insomuch that the business is becoming a very profitable and important one. Perhaps in some ways it is the best-paying branch of apiculture. Given a number of old ruskies full of bees, no management is required during the whole year but a little watchfulness while the brief swarming season lasts. The bees can be boxed up in the cool of the evening after the day's work is over, and if a railway station is near the expenses are nil, the carriage and return of the swarm cage being at the charge of the consignee. On the other hand, a good deal of scouting is necessary when driven bees are being sought after. Sometimes tedious and frequently disagreeable work has to be overtaken, while a charge imposed by the cottar causes a deduction from the derived revenue. A pony and trap are frequently requisitioned, half a day is generally consumed in driving half to a dozen lots if far apart, and risks and accidents are numerous. Bee-drivers tell us that losses and crosses are plentiful, and that the business is too often one bestowing on them neither pleasure nor much profit. Then the outfit necessary in the first instance is no small consideration. Any makeshift old box or superannuated skep will not suit the purpose when the bees have to travel any distance by rail. Suffocation, starvation, and smashing *en route* have all to be guarded against if the trade is to increase and repeat orders come in year by year.

These are a few features from the seller's point of view; now let us consider how it affects the buyers. Good swarms got early in the season always pay their expenses the first season, barring accidents, and very generally supply a handsome surplus. Poor swarms, or those obtained too late, drag out a questionable existence, or at the best make survival for another year's work just possible. The moral is plain. Order swarms early. It is best to do so in January or at latest early April, as the seller's motto rightly is "First come, first served." To give an instance: This season I obtained two swarms. One arrived a fortnight later than I expected, and that period behind the average date, on June 18. It made rapid progress after being established on nine frames of comb, so that it was crated on July 1, a second was given on the 17th, and a third as a cooler on the 25th, as the others were then so well occupied. It swarmed, however, with three racks on, two well forward, on the 29th. Withdrawing seven frames, I substituted a like number, three of comb and two starters. They completed these, filled them with a solid mass of brood, and yielded about two and a half racks surplus. The brood-combs withdrawn were placed in empty hives, and both are being worked up for wintering safely as stocks with nine frames. Both got about 1 lb. of bees out of the swarm before returning it. All three at date are in good form. As a contrast to above, let me instance the second swarm hived on July 26. Swarm-providers found it impossible to fill orders this year, so this was a very late delivery. It has only completed nine out of the ten frames given, but has ample stores for winter, a choice lot of brood, and plenty of bees. Yet it has proved unproductive. The moral is plain: Get swarms at an early date.

Now take the case of driven bees, and here the question of comparative merit comes in. It is generally taken for granted that driven bees are obtained much more cheaply than swarms, and I was myself a believer in the sentiment, but now I have my doubts. In a double sense they are *dearer*. I obtained four this season, as I had spring losses I wanted to fill up, and I hold that of all things in an apiary empty hives are the most unproductive. All are doing well. Let me take any one of these and place it alongside my swarm, first viewing the point of cost. For the swarm I paid 15s. Adding to this 3s. for carriage by rail and motor and cost of telegram, my expenditure was exactly 18s. Place against this thirty-six sections of clover honey and fifteen heather, representing a value of 45s., and a profit is shown of 27s., leaving out of consideration the increase.

Now as a contrast take my driven lots. The cost of the four was 28s., giving the average value of one as 7s., and the cost of carriage, &c., 4s. 3d.—total 11s. 3d. I fortunately had no feeding, as they had some ten days on the heather of fairly good weather, during which they stored an ample supply to tide them over the winter. If not, the cost of feeding would have been about 5s., making a grand total of 16s., against 18s. for the swarm. Then there is a considerable amount of work, worry, and frequently loss in dealing with these driven bees. For instance, one of the lots arrived queenless. Luckily, I observed it in time, but last year, taking the matter on trust, I found a 7-lb. lot in spring without a single bee from this same cause. Many other drawbacks will be readily called up by all who have dealt with driven bees.

The deduction I would draw from the foregoing is that swarms pay best in every way. A good swarm can be got for about 12s. 6d. Driven lots cost about the same amount, everything included. Swarms in general yield a good surplus the first year, frequently paying double the outlay, whereas money invested in driven bees is sunk and quite unproductive for the better part of a year. Late swarms are worthy

only of being placed on a level with driven bees. And, too, there are swarms and swarms! The miserable handfuls forwarded at times in the name of top swarms are merely a pretence of the real article. Every order for swarms or driven lots should stipulate for a certain number of pounds of bees, and nothing less than 4 lb. should be accepted as worth while—5 lb. and 6 lb. might do better—but I think any heavier weight is very little advantage: 2s. 6d. or 3s. per lb. is a very fair price for swarms, and 1s. 3d. for driven bees. Swarms decrease in weight during transit, and it seems all but a universal custom to throw all this loss on the purchaser. Why this should be is a problem I cannot solve. Driven lots travelling two or three days lose more in weight than regular swarms. I think this is rather peculiar, because swarms are thoroughly gorged before leaving the old home; whereas under modern methods driven bees are dealt with so rapidly that they are hurried from the domestic hearth before they have time to do little more than obtain a tiny sip of the life-giving nectar they have so industriously garnered, and of which cruel man so inconsiderately deprives them. One would suppose therefore swarms would show most loss, but in my experience the reverse holds true.—D. M. M., Banff.

FOUL BROOD ACT FOR IRELAND.

[7211.] I have studied the text of the Foul Brood Act, Ireland, with great interest, and I cannot say that I consider it satisfactory. Some of its provisions are, no doubt, salutary, but others seem to me full of danger to our industry. I should like to see it keenly criticised, for, should a similar measure be proposed for England (and I sincerely hope such will be), it will have to be considerably altered. *En passant* may I point out to your correspondent Mr. W. J. Farmer (7201, page 355) that nowhere in this Act is it stipulated that honey and wax, products of the hive, shall be destroyed? *Bees*, *articles*, and *appliances* are the terms used several times over, but honey or wax is never mentioned. Whether the omission is intentional or is only another example of the careless way in which this Act has been drafted I know not. Yet there it is, and it is quite sufficient to enable the proverbial coach-and-six to be driven through the Act. Therefore let Mr. Farmer take heart of grace.

Revenons à nos moutons. The Act commences by ordering that, "if any person keeping or having charge of bees becomes aware that the bees, or any of them, are affected with foul brood, he shall give notice of that fact to the local authority." Now, there are those who either do not know, or pretend not to know, that their stocks are affected. You in your paper devote space to reporting on samples of comb submitted by correspondents evidently unfamiliar with foul brood. I have this spring been touring as expert for one of our largest county associations, and have repeatedly found bee-keepers, even of old standing, unaware that their bees were diseased, especially in the earlier stages, and it has been my duty to impart the unpleasant news. Yet these are the very centres of contagion and the very people against whom the Act is directed. How can they possibly give information of the condition of their bees if they are unaware of it themselves? Expert knowledge is required. It would be as logical to ask anyone to diagnose disease of the human frame before he had learnt the elements of medical science. Clause 2, giving compulsory powers of inspection, should have come first, and it should be the business of the inspector to make the report to the local authority defining the stage of the disease and saying whether a cure would be probable, or advising destruction. In the earlier periods a cure is nearly always possible. With regard to Clause 3, in the hands of an inspector who knows his work it will be useful. Regarding Clause 4, this is a marvellous enactment. Here we have power given to lay desolate an area, to destroy all bees, hives, and appliances therein, "lock, stock, and barrel"! Years of labour, of saving, and often all the capital of the bee-keeper, and the appliances accumulated, gone into the fire! Our own special strain of queens gone. And why? Because some few careless bee-owners—not keepers—in the county have allowed their hives to get into a rotten state, and possibly the inspector may have lost his head! No definition of "an area" is given. Therefore it may mean anything. For example, in England counties, such as Essex, Surrey, Kent, or Cumberland, might be considered "areas," and declared as such. With such a possibility, who would commence bee-keeping? Who would invest their money at such risk? It will be good-bye to bee-keeping if this clause is strictly enforced.

The wisdom and justice of Clause 5 are obvious. Clause 6 cannot be discussed yet.

Clause 7 tempts one to inquire who drafted this Act. Locality as to the individual position for an apiary has but little to do with foul brood. It may not be an ideal spot for bees, but that is another matter. How many instances do we not all know of colonies being devastated by the pest? But, judiciously treated, they have recovered, and on the self-same spot successful apiaries now

stand. Let bee-keepers keep their colonies clean and strong, periodically renew all combs, and carefully watch the health of each hive, and even in those relaxing districts more congenial to the disease than bracing atmosphere the enemy may be kept at bay. Dirt in hives as in dwellings is synonymous with disease.

Clauses 6 to 13 are administrative only. Considering the Act as a whole, it seems to me very difficult and unworkable, but, to quote Mr. Farmer, it will need administering with tact and discretion, and the inspectors must be of great ability and commonsense; but meanwhile, as our Editors remark in the editorial on page 331, we in England will have an opportunity of judging its effects. I send name, &c., for reference, and sign—CUMBRIAN, September 8.

FOUL BROOD LAW IN COLORADO, U.S.A.

LETTER FROM AN ENGLISH INSPECTOR.

[7212.] It may interest your readers to know something of the method of treatment which is given by the State to that terrible disease of bees which is the bane of bee-keeping everywhere. I know how much has been said and written respecting the matter of Government protection in the Old Country in the case of foul brood. I received the appointment of bee-inspector of the Montezuma County, Colorado, a district taking in the beautiful and prolific valley of Montezuma—about 300 square miles in itself, without the districts outside. The law is as follows:—My appointment is made upon either the application of the president of the bee-keepers' association of the State, or upon the petition of actual bee-keepers in the county. The appointment is made by the County Judge, because of the report of danger of attack by foul brood in the county. The inspector must be a competent practical bee-keeper residing in the county. He must appear before the judge at court and take the oath of office. Every person who becomes aware of foul brood among his bees must notify the inspector immediately. In default he is liable to a fine with all costs. The inspector on receiving notice from any source must at once inspect all hives and appliances and notify the owner, who must within five days apply what treatment is prescribed; also thoroughly disinfect to the satisfaction of the inspector all hives, &c., used, or else destroy everything and bury remains in ground, covering same with not less than 2 ft. of earth. The inspector is bound to disinfect himself and clothes before leaving. The inspector may order all bees in skeps or boxes to be transferred to movable-frame hives within a certain time, or order destruction of the same in default.

To sell or barter infected bees or hives, or move away diseased colonies, is punishable with a heavy fine or imprisonment for two months. Concealing the fact of disease is punishable by fine or imprisonment. If owner refuses to obey inspector the latter may complain to a justice of the peace, who will send the police to enforce the law. The inspector makes an annual report to the bee-keepers' association. The inspector receives 16s. per day and all expenses while out, which is paid, not by the association, but by the county office, being a county officer.

Your readers will be glad to know that bee-keepers generally co-operate heartily with me in carrying out the work. I get a number of applications to inspect apiaries and render help. We have a lot of disease in the county. I have been greatly interested in my friend Mr. W. Herrod's treatment of disease as given in B.B.J. for July 23. If any man is worthy of hearing it is he. I have found great help from his practical teaching, especially in this responsible office, with so many hives to treat.—(REV.) W. HENRY COLLINS, Dolores, Colorado, U.S.A.

P.S.—Drugs of any kind are little used out here. The "starvation method" is preferred.

OBSERVATORY-HIVES AT SHOWS.

[7213.] I and no doubt many others would like your opinion and that of your readers as to what an observatory-hive for exhibition purposes should be like. The show schedules do not define clearly enough what is required, this being the wording of one: "Observatory-hive with bees and queen, each comb to be visible on both sides." Under this rule I have seen a great variety of exhibits, from a single comb to one with a tier of three combs of brood, with three sections on the top of these; also shown with two queens upon one comb, one being a virgin in a cage!

These have been considered educational, but from what point? For myself, I fail to see where the educational part comes in. A spectator does not stand near such an exhibit for very long before he hears someone ask if this is how they are in the hive. Now, I am not alone in considering an exhibit of three or more frames above each other a ridiculous thing from an educational point of view, as what British or other bee-keeper works three tiers of brood as a general thing in his apiary? We have uniformity in such exhibits as honey in jars, sections, &c.: why

not in observatory-hives also? Surely it would be much better for the appliance dealers if there were some recognised standard that was not so cumbersome and difficult to move about.

I note the American show-schedules very clearly define what an observatory-hive should be, which we could wisely copy in preference to the one given above.

My idea of an observatory-hive is to show in correct *section*, as far as possible, the inner working of a modern hive—say brood-chamber, shallow-super, and frame of three sections. A hive made on this principle is not at all cumbersome or difficult to move about, and shows everything needful for educational work, being particularly good for object-lessons in any school.

Trusting some other bee-keepers, or Colonel Walker, will kindly give their views upon the matter, as I find, even after twenty-five years with the bees, there is still much to learn, and apologising to all who may differ from me, and trusting that my remarks may be accepted in the same friendly spirit as given.—HERBERT POTTS, Dutton, Warrington, August 28.

[We may point out to our correspondent the fact that show authorities usually make their own conditions irrespective of any rules that may be promulgated by outsiders. Therefore if any change is needed in the regulations where unsuitable conditions are laid down local bee-keepers should use their influence in having matters put right by bringing to notice the condition in force at the annual shows of the Royal Agricultural Society of England, which are arranged by the Council of the British Bee-keepers' Association, and meet every requirement.—EDS.]

A GOOD REPORT FROM HANTS.

[7214.] I have had an excellent honey-yield this year. From eleven hives I have secured 519 completed sections, thirty-two unfinished ones, and 260 lb. of extracted honey. I have also formed three nucleus-hives, each of which is now on seven frames. This is not at all bad, I think.—F. L., South Tidworth, Hants, September 7

BIRDS, BEES, AND FRUIT-STEALING.

[7215.] Referring to the letter of your correspondent G. S. Newth (page 306), and to subsequent letters in the B.B.J. on the same subject, let me say I have my hives placed amongst black currant and gooseberry bushes, and for years the fruit (always an excellent crop) has been left until fully ripe. The currants are left until so ripe that they can be pulled off in strips, and the end berries are not ripe for a week after the top ones, so the large berries are by that time a treat for any blackbird. The bushes are never watched, and the fruit has never yet been taken by bird or human being, although 400 yards from our house. Several cottage gardeners whose plots are thirty yards from my bees have to pick their fruit when just turning, as the blackbirds steal it all. How this is I cannot say, but it seems as if the proximity of the bees serves to protect the fruit.—J. G. N., Langwathby, Cumberland.

PAPER HONEY-POTS.

[7216.] I was interested in the short note on page 356 of your issue of September 3 *re* the new paper honey-pots. I was glad to know that others besides myself are experimenting along this line. I procured samples just after the last Dairy Show and filled them at once, and they are as perfect to-day as when first filled. Through the kind assistance of the manager of the Mono Service Vessels, Ltd., I have been able to give them an extended trial this season. I have had 2,000 ½-lb. size pots beautifully got up by this firm, and far superior to anything of the kind produced before. Most of these have been filled, and, so far as I can see at present, bid fair to sell well. I enclose sample pot for your opinion.—EDWARD ROBB, Wisbech, September 7.

[The sample is very nice indeed for table use.—EDS.]

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Swarms and Cell Chronology (page 296).—It is possible that cases where the bees swarm with unsealed queen-cells are referable to "deferred swarming." That is to say, they may have made an abortive attempt, and, delayed by weather, have destroyed the cells. Then at a subsequent opportunity they may swarm regardless of the exact progress of the cells. The swarming fever may, indeed, be contracted from a neighbouring colony, or rather it may come to its height owing to the contagious excitement. Cases have been recorded where swarming has taken place without any attempt at cell-building. But such cases are far from the normal, and in a natural state would soon effect their own cure. For the queens would not be so good as those reared by a full and queen-right stock. This important truth is the basis of the most up-to-date queen-rearing.

Irascibility (page 297).—The spreading or drifting of bees to neighbouring hives may quite conceivably cause this. Where many hives are collected there is nearly

always, I think, a little surreptitious robbing in progress. Very slight, perhaps, but still there, even during a honey-flow. It is advisable that hives should be well separated, or clearly marked by some object. Where they are in a row, it is a good idea to place them in sets of three. Then every bee has a home which is clearly a centre hive or an end hive.

F. R. Beuhne (page 312).—I was very glad to meet Mr. Beuhne at the Congress. The impression I obtained from conversation with him, and from the discussion in which he took part, was that of a thoroughly practical apiarist, who knew well what he was talking about. His experiences may not have been exactly like our own, but his local conditions are certainly unlike ours. There is a good photograph of him in the current issue of *Gleanings*.

Neatness (page 314).—We are often indebted to our friends "D. M. M." and W. Woodley for timely and wise advice, and seldom more so than when they deal with practical handling and marketing of the crop. So many of us get honey and fail to sell it well. This article by "D. M. M." will repay re-perusal just to see if there be no one point where the reader fails. The replacement of a brood-comb after examination is not always accomplished neatly. I have devised a method by which speed and certainty may be secured, even with the last comb and tight quarters. Slide the end-bar down the hive side; that is, allow double bee-way at one end and none at the other. This prevents sway or swing in any direction, and crushing cannot take place. Far more bees are injured by a very slight uncertainty than many otherwise good folk might believe. Make your next thorough examination when the bees are ceasing to fly for the day, and spread a white sheet in front for the ejected victims!

Moles and Bees (page 316).—It is hard to agree with the construction put upon this mole story. If freshly-killed Launceston moles are in such bad odour with the bees, there is small wonder that in life they prefer to sniff about underground! However, upon reading the account I took a mole, already one day dead, and endeavoured to test the matter, but the bees quite ignored it. I even allowed it to remain on an alighting-board. Certainly I found it subsequently tumbled off, probably as a result of a gigantic combined effort, but apparently it was unstung. Either the bad smell did not emanate or my bees were sufficiently intelligent to know that it was already dead. But I do not think that a freshly-killed mole is so unpleasant or, indeed, half so skunky an object as a weasel or a stoat.

Ripe Queen-cell (page 317).—Did Mr. Knight obtain his queen-cell by post? I fear it would be over-ripe, and a post-mortem case! I should not expect a perfect queen from any cell which had been handled through the post.

Foul Brood Act (page 331).—A sufficiently drastic measure, one would think. A powerful weapon with which to cut out any diseased place in the body social of bee-keepers. Let us hope that it may be used wisely as well as firmly, with a common-sense interpretation. And let us be grateful to our Irish friends for the lead which they have been enabled to show us in this matter. For we have here a valuable object-lesson close at hand. Time will show whether the Act will operate favourably and whether it will dispose beneficently of the objections brought forward by some of our practical producers, whose protests it was impossible to ignore. We shall see.

Wax-rendering (page 336).—Mr. King would seem to differ, upon rather slender grounds, from the careful treatise by F. C. Alford on this subject. Practical trial should convince him that the solar extractor will not render a satisfactory account of old brood-combs. Mr. Vallance's article would seem to supply the very information for which he asks—viz., how to treat old and pollen-clogged combs to the greatest advantage. But wax-rendering always spells work!

Bee Shows to Come.

September 19 to 26, at the Agricultural Hall, London.—Honey Show in connection with the Sixteenth Annual Exhibition and Market of the Grocery and Kindred Trades. (See large advertisement on page iv.) Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.** Schedules from H. S. Rogers, Secretary, Exhibition Offices, Palmerston House, Old Broad Street, London, E.C.

September 23, at Altrincham.—Honey Show in connection with the Altrincham Agricultural Show, the largest one-day show in the Kingdom. Classes open to United Kingdom. **Entries closed.**

October 6 to 9, at the Agricultural Hall, London.—Show of Honey and Bee Produce in connection with the British Dairy Farmers' Association. **Entries closed.**

October 21 to 24, at Waverley Market, Edinburgh.—Honey show in connection with the Twelfth Annual Edinburgh and Midlothian Industrial Exhibition. All open classes. Beautifully illustrated prospectus, price 2d., from A. Hutchinson, 15, Leith-street, Edinburgh. **Entries close September 30.**

Queries and Replies.

[3794.] *Taking up Bee-keeping as a Business.*—I hope I shall not be troubling you too much if I ask you for some advice on the subject of bee-keeping. I am an absolute stranger to the craft; but with a view to taking it up commercially, along with some other things later on, I am

contemplating a start with one hive. As I am more or less in the country here, and there are numbers of gardens about, I take it that the position would be all right. I therefore ask: 1. When is the best time to commence? 2. What are the actual requirements for a beginner, with approximate cost of same? 3. I notice there are several different hives advertised in your paper, but they vary in price a good deal, and I should like advice as to which is the best to buy; the same remark refers to various books on bees which are advertised. 4. The book I want is a good general treatise on the subject, practical and to the point. 5. Can you say if the neighbourhood of Penzance would be suitable for bee-keeping? I ask this on the off-chance of your knowing that locality, as it is the one in which I have some thought of commencing my commercial operations. I was down there recently, and noticed that there was a good deal of heather and gorse on the hills and wild flowers in abundance; trees are rather scarce. If you will be so kind as to send me some information I shall be very much obliged. Name, &c., sent for reference.—C. W. W., Blackheath, S.E.

REPLY.—1. The most favourable time for purchasing a stock of bees is about the first week in April. Meanwhile you will do well to purchase a copy of the "Guide Book" (which may be had from this office for 1s. 2½d., post free) before investing in anything else. 2. After reading the book named carefully through you will be well informed on all the points needful for making a fair start on sound lines, and be saved both trouble and cash thereby. 3. Your next step should be to visit an appliance manufactory in order to see the various things mentioned in the book and satisfy yourself with regard to approximate cost of making a fair start. 4. The book named above will fulfil all requirements for a beginner to judge from. 5. We have no personal knowledge of Penzance as a bee-district, but should advise choosing a county in the South as being better adapted for your purpose.

[3795.] *Wax-moth.*—Being a novice in bee-keeping, I would be grateful for some information *re* the above under the following circumstances:—In the early spring I bought a hive from a person in Kent, and on examination found it an extra good hive and in a very forward condition for the season. However, as the warm weather came on, I found a number of wax-moth grubs in the hive, and they increased to an alarming extent. There are over sixty hives at this place, and such a thing not being known here, I should not like to be the means of spreading it. I therefore ask: Do you think that after bringing hives back from heather I should transfer the bees into another box, and then fumigate the hive, frames, stores, &c., with sulphur as a means to exterminate them? This done, would I, after two days, be safe in putting back bees, and would the fumigation not affect the stores? I take the B.B.J. weekly, and have the "Guide Book," but the latter does not say much on the question of wax-moth. If my ideas are not correct, what would you advise? Thanking you in anticipation, I send name and sign—BRIG, Bridge-of-Allan, September 4.

REPLY.—The wax-moth, *Galleria cerella* (*cereana*), is fully described and illustrated in the "Guide Book" (see chap. xxxv, pages 165-7), the male and female moth and the full-grown larva being shown of natural size, so that there may be no mistaking the real wax-moth or the destruction it works among the combs of an infested hive. The remedies against it are to keep only strong stocks and destroy the larvæ whenever seen in hives or combs. Also to allow no old combs to lie about or be accessible in bee-less hives for the moths to effect a lodgment and so breed undisturbed.

[3796.] *Bees in Skeps not Working.*—I have two skeps of bees, which have both had supers on ever since the apple trees were in bloom. However, as the bees did not work in the supers I decided to drive them from the skeps, as the latter seemed heavy. On August 18 I drove the first lot successfully, but to my surprise found there was no honey in the skep. A good many of the cells were filled with pollen and quite at the top of the combs; there was a fair quantity of brood; the bees were immensely strong in numbers, as they have not swarmed this year. I felt sorry that I had taken their brood-nest from them for nothing, and we have had so much wet weather since I drove the bees out that I have not touched the other skep, but have been feeding them with syrup (according to recipe No. 6 in the "Guide Book"). Will you kindly tell me: 1. How much I ought to give them per day? I have given them rather more than ¾ pint daily; is that sufficient? 2. How would you account for there having been no honey, as the bees have been working well all the season? The skep I drove them into had two pieces of ready-built comb in it at the time; will the bees fill the remainder of the skep with comb and store any honey before the weather gets too cold? 3. The other skep has a straw super on, which is fastened with clay. I looked in on July 11 and no start had been made at comb-building then, and I have not examined it since. Ought I to take the super off now and commence feeding? At what time should I stop the syrup and give candy? 4. Can I melt the comb down in a saucepan, or what is the best method for an inexperienced person to obtain the wax?—M. L. PAGE, Norwich.

REPLY.—1. In feeding up stocks in skeps after mid-September the bees may have the syrup given warm in bottles holding anything up to a quart, and the mouth of such bottles should be covered with coarse calico and the bees allowed to take the food as fast as they will until about 20 lb. of syrup is stored. 2. It is not certain that the bees will quite fill the skep with newly-built combs so late as this, but with the combs they already have they will be able to winter all right so long as the food gets sealed over before cold weather sets in. 3. Remove the super from second skep at once, and feed the bees as already advised. If sufficient syrup-food is given there will be no need for candy at all. 4. You will find all methods of wax rendering described in the "Guide Book," and all bee-keepers who are "quite inexperienced" like yourself should gain experience by reading up the various operations connected with bee-keeping in preference to relying only on our "Queries and Replies" columns.

[3797.] *Removing Frame-hives.—Making the "W.B.C." Hive.*—I will be glad of your advice through the B.B.J. on the following:—1. I wish to remove a few hives of bees from where they now stand in the garden because the bees are rather troublesome in the summer when one is at work near and passing them. Would they be all right if placed in the orchard where fowls are; and if so, when is the best time to remove them? 2. Would you favour me with the measurements of the different parts of the "W.B.C." hive, as I want to make some for my own use? Name sent for reference.—BUSY BEE, Gloucestershire.

REPLY.—1. The bees will do very well in an orchard, but there may be odd occasions, such as when removing honey from the hives, when the fowls would need to be kept away from the hives for a time unless great care is exercised in not irritating the bees unduly. 2. Your best course will be to procure a copy of the "Bee-keeper's Practical Note-book," in which are given full details, with measurements and illustrations, of the various parts of the hive in question. They would

occupy too much space in this column. The price is 1s. 1d. (post free) from this office.

[3798.] *Making the "W.B.C." Hive. — Breeding from Selected Drones.* — 1. I should be obliged if you would kindly let me know through your "Queries and Replies" columns if you consider there is any serious objection or disadvantage in making the outer-case of body-box of a "W.B.C." hive 12 in. high instead of 8⅝ in. and the lift 9 in. instead of 6½ in.? My idea is to eliminate the second "lift," or rather to do away with two separate lifts and transform them into one deep one capable of taking two shallow-frame supers. 2. I should also like to be informed if you think it possible to breed a fair percentage of pure black queens from two hives (as black as I can get them) from breeders of black bees containing drones and queens respectively, the other hybrid stocks in the apiary having their frames spaced 1¼ in. from centre to centre, and the nearest apiary being about half a mile away? Thanking you in anticipation. —H. C. Goodwin, Sussex, September 9.

Reply.—1. To alter the construction of the hive in question would entirely spoil it so far as the opinion of the designer of the hive is of any value. To work the "W.B.C." hive properly the top edge of outer-case must be exactly level with top-bars of frames in the brood-chamber. Nor can we see any advantage in "eliminating" the second lift as proposed, though that is a small matter compared with the many difficulties connected with supering which must inevitably arise if the outer-case is higher than the brood-chamber. 2. We fear there would be no chance of preventing cross-breeding with another apiary only half a mile away. In fact, the black queens would be more likely to mate with the other drones than those of your own apiary.

[3799.] *Mixing Honey.*—I am sending you two samples of honey, and your opinion thereon would be esteemed under the following circumstances: Sample A was taken from my hives early last July, and B was taken from the same hives early in September. Both lots were passed through the extractor, and had the same treatment throughout. From the first lot I filled a gross of 1-lb. jars and left about 30 lb. in the bottom of the extractor-can. About six weeks later the second lot was extracted on top of the last-named 30 lb., and when drawn off and strained the whole of the honey in the extractor (including the 30 lb. mentioned) had the same ugly colour as sample B. A puzzling point is that the honey drained from the cappings and broken pieces of comb of lot B is honey of golden colour like sample A. It looks as if some chemical change had taken place in the 30lb., which was left for six weeks in the bottom of the extractor, and that this had imparted the dark colour to the second lot. I should be very much obliged if you could throw any light on the cause of the dark colour, and give your opinion as to the qualities of each sample.—A. O. G., Lewes, September 14.

Reply.—Sample marked A is fairly good in colour, flavour, and consistency, and may be regarded as a nice honey for table use; while B is inferior on all points. In fact, the latter was gathered when there was some honey-dew about. We do not see any reason for supposing that the honey left in the extractor has contaminated the lot gathered later on. We rather regard it as the other way about, and that the 30 lb. left in the extractor has been spoilt by the addition of inferior honey.

[3800.] *Diagnosing Disease in Combs.* — I have four strong stocks of bees and two weak ones located just outside Sheffield, which came from Herts during the fine weather in March. By the end of April they were very strong, when I gave three of them ten more frames each, and at the end of May these frames were mostly filled with brood covered with bees. I supered them in the second week of June, and from that time they apparently have done nothing except throw drones out of the hives. The enclosed piece of comb, you will see, has brood here and there; the frame this is from is dotted in this fashion over half-way up; above that stores are sealed. Some of the brood which I gouged out was suspicious-looking, while other cells contained bees in various stages of development, but dead; these I considered as being chilled. Now when I showed this to a bee-man of some years' experience he thought it was the Isle of Wight plague, and suggested extracting all combs containing honey, burning the brood, disinfecting hives and frames, melting combs down, and starting afresh with new foundation. This I strongly object to do unless you say it is absolutely necessary to use such drastic treatment. The unbroken brood on enclosed sample may or may not be so bad as I have described it. However, I expect your long experience in bee-culture will enable you to decide what is to be done through the B.B.J., which is always so instructive every week. I send name for reference, and sign—Hybs, Sheffield.

Reply.—We do not see any signs of foul brood (*Bacillus alvei*) in the few sealed cells containing dead larvæ. It appears to us a case of chilled brood only. Anyway, there is nothing analogous to the Isle of Wight trouble in the comb sent.

Notices to Correspondents.

W. H. (Northop).—*Unprolific Queen.*—Dead queen sent is a rather fine one in appearance, and there is no sign of age or being worn out to account for unprolificness.

E. M. A. (Colchester).—*Making Honey Vinegar.*—We are not experts in honey vinegar making, and referred you to the author of the pamphlet on the subject as affording a chance of some simple explanation being got in that way. We will, however, endeavour to get the information from another source and let you know.

H. P. (Kent).—*Fixing Foundation in Frames.*—If you send a specimen frame with foundation fixed in we will be very pleased to give our opinion thereon.

R. R. (Preston).—*Young Bees Cast out of Hive.*—The bees are quite young, and have apparently never flown. The only explanation we can offer is that they got chilled through sudden lowering of temperature and being away from the warmth of the brood-nest, and have reached the helpless condition which prompts the adult bees to cast them out as useless.

R. F. (Birmingham).—*Making Artificial Swarms in July.*—We should never advise making artificial swarms so late in the season as July; and in your case it has proved a failure, as the young queen raised has evidently failed to mate.

A. B. H. (Essex).—*Silk-fluff for Winter Packing.*—The material sent would make a very good packing for placing above brood-nests in winter, but it will need to be enclosed in a case of strong calico to keep the bees from gnawing holes in the cover and so getting at the "fluff."

H. Evans (Pwllheli).—*Bees Transferring Themselves.*—The brood in comb is chilled, probably through the sudden changes of temperature so frequent of late. You had better contract the frames in lower hive to as many as the bees can cover well, and continue feeding with good thick syrup given warm. Leave off medicating the food if it has any disagreeable taste or

smell, as the latter fault may be the cause of the bees refusing the food, as stated. Keep the bees very warm while being fed up for winter, and we think they will be all right.

BEGINNER (Epsom).—*Varying Colour in Bees.*—From the particulars sent we should say that the swarm mentioned as having issued on July 14 was a second swarm, or "cast," and that the young queen by which it was headed was mated to an Italian drone. We say this because the young bees sent are well-marked Italians of bright golden colour. They will become darker as they get older, as all the foreign races do.

Honey Samples.

M. O. (Carnarvonshire).—Sample would do very well for showing locally, but is hardly good enough for a keen competition at a large show. It is not entirely from clover, being mixed.

BELL (Staines).—Sample is of good quality, being from sainfoin and clover. It is suitable for showing in the light-coloured class.

E. WALSH (Hale).—Honey sent is very good indeed, and fit for any show-bench. The bees are hybrid Carniolans.

R. F. (Birmingham).—We find very little difference, so far as regards quality, in the two samples sent; both are good white clover honey, and save for a little want of density, would rank as very good.

F. C. H. (Sheffield).—Sample is very good in colour and flavour, and if the whole crop is equally good, as stated, you are among the fortunate ones of the year.

A. B. SELF (Norwich).—Sample No. 1 is excellent in colour and density, and good in flavour. No. 2 is good on all points, and of better flavour than No. 1. If No. 3 is sold to you as "skep honey" at 6d. per lb., it is well worth the price, being very good indeed. Your sample of candy is not boiled enough, and will go quite hard when the moisture dries out of it.

S. G. I. (Hungerford).—Sample is fairly good in quality, but is just starting to granulate. Good honey is always of thick consistency.

UPPER WARD (Lanarkshire).—Sample is from mixed sources, and is good in quality, though not quite first-class. It is beginning to granulate, and will soon become solid.

MISS RICHARDS (Surrey).—So far as can be seen and judged by a sample sent in broken comb, the honey is very good and mainly from white clover; it is quite fit for the show-bench if nicely extracted and put up in 1-lb. jars.

T. WILCOX (Monmouth).—If staged in class for heather honey your sample is very suitable for showing.

Suspected Combs.

F. L. (Hants).—There is no disease in comb sent; nothing worse than drone-brood in worker-cells.

ONE IN DOUBT (Hunts).—All such combs as the five samples sent need either melting down for wax or burning outright. They are too old and black, with too many drone-cells in them, for use in any well-managed hive. It seems to be a case of black brood, though a large percentage of the unsealed larvæ is in normal and healthy condition. We cannot attribute the state of the brood to "tree dressing," as you suppose.

E. H. (Birmingham).—This appears to be a case of black brood.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

WANTED, Honey. Cash, or exchange cycle, Hives. Sample. — HORTON, Bridge, Flixton, Manchester. k 76

HEALTHY DRIVEN BEES, good lots, 4s. 6d. each.—RICHARDS. Thurlby, Wallington, Surrey. k 80

Special Prepaid Advertisements.—*Continued.*

HEATHER HONEY.—The improved, all tinned, all malleable iron "Rymer" Press is miles ahead of any, also our Feeders and Honey tins.—MEADOWS, Syston. k 88

WANTED, "British Bee Journal," volume 1.—JOHN DAVIS, 13, Paternoster-row, London. k 87

HEALTHY DRIVEN BEES, from Wood Hives, 5s. per lot, with '08 Queen; also '08 Heather Queens, 2s. 6d. each.—A. E. HARRISON, Farm, Middleton, Pickering. k 85

GOOD STOCKS, in "W. B. C." Hives, new two years ago, 27s. 6d. each; Hives alone cost 21s.; also good Heather Honey for sale.—HARRISON, Farm, Middleton, Pickering. k 86

"R." wishes to inform Customers that all his Honey is now sold. k 84

FOR DRIVEN BEES.—About 3 cwt. of Comb Foundation, just made of pure bees-wax, rather darker in colour than usual, guaranteed equal to any in use, not less than 7-lb. parcels at 1s. 8d. lb., post free.—ABBOTT BROTHERS, Southall, near London.

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DRIVEN BEES, strong, healthy lots, 4s. 6d.; 1908 Fertile Queens, in introducing cage, 2s. 6d.—SOLE, Expert, London-road, Whitchurch. k 65

LIGHT CLOVER HONEY, £2 16s. per cwt., packed free on rail; sample, 2d.—COMLEY, Fairford, Glos. k 66

MATED QUEENS FOR SALE, 2s. 6d. each.—MUNRO, Oxshott, Mapperley, Nottingham. k 68

FEW SKEPS BEES, also Frame Hives, all winter stores, Skeps new, guaranteed healthy, Skeps 14s., Frame Hives 22s. 6d.; or nearest offer. Stamp reply.—S. HARRIS, Aberfeldy. k 67

GOOD LIGHT EXTRACTED HONEY AND SECTIONS FOR SALE.—DAVID HANCOX, Deddington, Oxon. k 74

2 SPLENDID STOCKS, on 8 Frames, one in new Hive, plenty Stores, healthy, 22s. each. Deposit; approval. — WARREN, JUN., Great Horwood, Bucks. k 73

WANTED, 3 Lots Driven Bees or Honey, in exchange for Hobbies' Treadle Fret Machine, good condition, also 200 clean Designs, sell 12s. 6d., or offers.—J. FRY, Bury-lane, Horsell, Surrey. k 72

3-CWT. GOOD QUALITY HONEY, 42s., carriage paid, for cash or Deposit; sample if required. —C. ADAMS, Weston Underwood, Olney, Bucks. k 71

QUEENS, 1908, 2s. 6d.; 1907, 1s. 6d.; Crocuses, 100 1s.; free. — BRAYSHAW, Aultmore, Keith. k 70

10 SKEPS OF BEES TO BE SOLD CHEAP, owner leaving district.—J. ORMAN, Ivychurch, Kent. k 69

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3-CWT. EXTRACTED HONEY, £2 the lot, purchaser providing tins; sample, 2d. Deposit.—G. LAWLEY, Horton-cum-Studley, Oxford. k 77

Special Prepaid Advertisements.—*Continued.*

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FOR SALE, PURE ENGLISH HONEY, sample 3d.—LAW, Cuckoo, Ashwell, Herts. k 78

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GUINEA HONEY EXTRACTOR, quite new, for 15s. 6d.; Glasses, for Glazing Sections, 4¼ by 4¼, 1s. 9d. 100.—HEWETT, Alton, Hants. k 2

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THE

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR.

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

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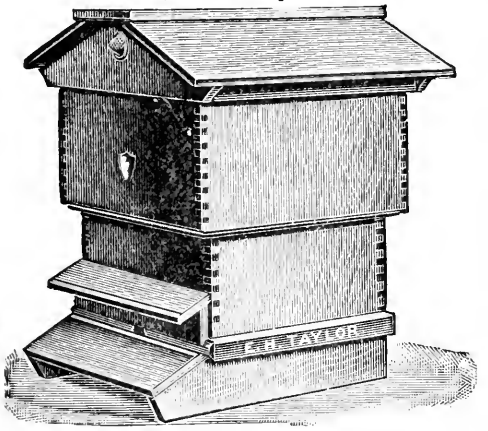

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ESTABLISHED 1873.

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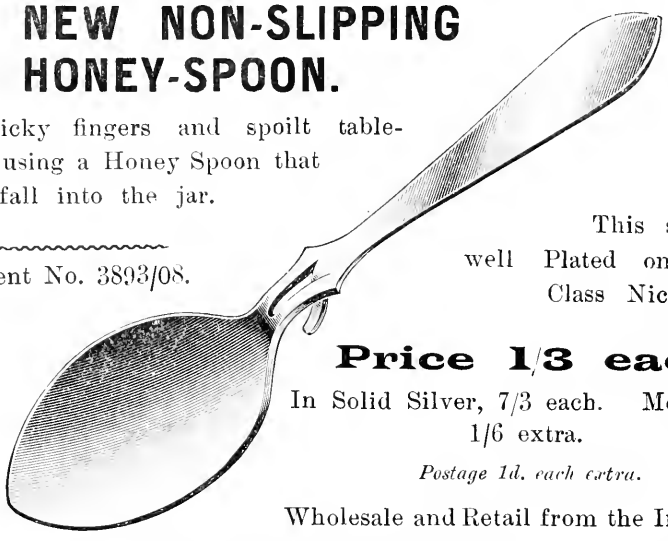

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held on Thursday, September 17, in the board-room of the R.S.P.C.A., 105, Jermyn Street, Mr. J. B. Lamb being voted to the chair. There were also present: Rev. H. R. N. Ellison, Messrs. T. Bevan, W. Broughton Carr, E. Garcke, E. Walker, F. B. White, and the Secretary. Letters explaining inability to attend were received from Mr. W. F. Reid and Mr. Wm. Richards.

The minutes of the previous meeting were read and confirmed.

Two new members were elected—viz., Mr. O. R. Frankenstein, 1, St. James's Terrace, Regent's Park; Mr. A. C. Tew, 1, High Street, Maldon, Essex.

The Rev. H. R. N. Ellison presented the report of the Finance Committee, which was duly approved. The report of the Congress Committee was also presented, and adopted. It read as follows:—"The Committee which was entrusted with the arrangements for holding a Franco-British Congress of Bee-keepers have to report as follows: The Congress was duly held on June 25, 1908, at the Franco-British Exhibition, under the presidency of Lord Avebury, when a number of papers connected with bee-keeping were read and discussed. These have appeared in full in the BRITISH BEE JOURNAL. On the following day a visit was paid by about twenty-five bee-keepers to Mr. W. Herrod's apiary at Luton, after which the visitors were entertained at Wardown Hall by W. T. Lye, Esq., J.P., of Luton. The appeal of the Committee for funds was so heartily responded to that it has been possible to return to each subscriber to the guarantee fund 57½ per cent. of his contribution, and this has been accompanied by a copy of Lord Avebury's presidential address in pamphlet form. Appended to this report is a statement of account of the Congress Fund, audited by Mr. J. Willard, the auditor of our Association.—(Signed) WALTER F. REID, Chairman of the Congress Committee, and J. B. LAMB, Secretary."

Two other candidates for first-class diplomas (in addition to those present at the last meeting) attended for the purpose of delivering impromptu lectures, and, as a result of these examinations, it was decided to grant diplomas to Messrs. J. H. Hadfield, T. A. Roberts, and L. E. Snelgrove. Reports upon examinations of candidates for third-class certificates held in Berkshire, Glamorganshire, Kent, Lincolnshire, Leicestershire, Norfolk, Northumberland, Nottinghamshire, Northamptonshire, Somersetshire, Warwickshire, Wiltshire, Worcestershire, and Yorkshire were received, and, acting upon the recommendations of the examiners, it was resolved to award certificates to the fifty-two candidates named as under:—Messrs. G. R. Alder, C. J. Ashworth, F. J. Barnes, Robt. Beasley, F. C. Clarke, W. J. Cook, W. Dolman, E. Everett, J. E. Fowler, C. W. Hallett, W. H. Halstead, D. J. Herbert, J. P. Inkpen, W. O. Jones, J. W. Laycock, Jos. Marsden, J. W. Marsden, Thos. Nicholls, J. G. Northover, J. T. Parker, C. C. Rochester, Adolphus Smith, A. H. Smith, E. Varty, Sidney Wakeford, W. S. Watson, J. H. Webber, Thos. Wilcox, G. P. Workman, and J. H. Wright; Misses W. Barter, K. Bartram, Francisca Blaauw, G. M. Grover, Nora Harrison, Mrs. Hirsch, S. E. Hymans, A. Inglis, C. Maclean, B. Matthias, L. Matthias, M. Milne, Mrs. G. L. Porter, Mrs. Russell, M. L. Smith, D. Stacey, K. Steel, E. M. Stubington, M. Swynnerton, Edna Thomas, and E. Woods, and Mlle. Zabiellska.

Nominations of examiners to officiate in Bedfordshire, Derbyshire, and Warwickshire were approved.

Among the subjects chosen for discussion at the forthcoming Conversazione are: 1. Autumn feeding. 2. Honey-selling. This meeting will be held in the board-room of the R.S.P.C.A. at 105, Jermyn Street, on Thursday, October 8.

EXHIBITION AND MARKET OF THE GROCERS AND ALLIED TRADES.

HONEY SHOW AT THE AGRICULTURAL HALL.

The sixteenth International Exhibition and Market of the Grocers and Allied Trades was opened at the Agricultural Hall on Saturday, September 19, and continues until the end of the present week. The honey exhibits occupy both sides of the north-west angle of the gallery to the right of the bandstand above the clock, and visitors bearing this in mind will have no difficulty in locating the honey department, which forms one of the largest and best displays of bee-produce seen in this country for many years past. By way of making this statement clear and comparing the display with other shows, the following particulars which have been furnished to us will be useful. The entries in the eleven classes over which the prizes are distributed reach 254; the number of jars of extracted honey totals more than 2,000, whilst of comb honey in sections, &c., there is staged 682 lb., making a total of 2,682 lb., or something over a ton of honey of the highest quality.

The six large and handsome trophies of honey and bee-produce form one of the

most attractive features of the exhibit, and occupy nearly 300 ft. of staging. The jars and sections are arranged on shelves six tiers high, so that the whole of this fine display of bee-produce can be seen to the best advantage. We also learn that the amount awarded in cash prizes alone (apart from medals and certificates) amounts to nearly £50. In view of these figures, it will be realised that the British honey section of the "Grocers Show" of 1908 is no ordinary one.

Among the foreign exhibitors who demonstrate the international character of the exhibition is Mr. Hans Matthes (a regular reader of the B.B.J. for many years), a Dutch bee-keeper who owns four hundred frame-hives and a great number of the old-fashioned Dutch straw skeps, used for heather honey. His exhibit, occupying a stand in the Gilbey Hall, gives us a useful lesson in honey-selling, tiny sample jars having a ready sale at 2d. each, while the bulk is put up in attractive-looking ½-lb. and 1-lb. glass jars. Mr. Matthes' honey is gathered from three sources—viz., clover, buckwheat, and heather, each kind being kept separate and sold by sample. It is not denied that the honey is of different flavour and quality from the British product, but it is contended that the stronger-flavoured honey is preferred in Holland, where it sells readily at 6d. per ½-lb. jar.

Mr. W. Broughton Carr, London, and Mr. E. Walker, Woking, judged the exhibits, and made the following

AWARDS.

Outfit for Beginner in Bee-keeping (4 entries).—1st, Jas. Lee and Son, Highbury, London, N.; 2nd, C. Greenhill, 80, Graham Road, Wimbledon; 3rd, Mrs. Seadon, Bromley, Kent.

Display of Honey (Comb and Extracted) and Honey-products, shown in suitably attractive form for a tradesman's window (6 entries).—1st (£4 and B.B.K.A. Silver Medal), Mrs. Herrod, "W. B. C." Apiary, Luton, Beds; 2nd (£3), C. Dyer, Compton, Newbury, Berks; 3rd (£2), O. R. Frankenstein, Farfrank Apiary, Stocks, Essex; 4th (£1), Jas. Herrod, Sutton-on-Trent; v.h.c., R. H. Baynes, Bridge Street, Cambridge.

Twelve 1-lb. Sections (21 entries).—1st (£1 15s. and B.B.K.A. Bronze Medal), T. Marshall, Sutton-on-Trent; 2nd (£1 5s.), O. R. Frankenstein; 3rd (15s.), J. Pearman, Penny Long Lane, Derby; 4th (10s.), Jas. Herrod; 5th (5s.), W. Woodley, Beedon, Newbury.

Twelve 1-lb. Heather Sections (7 entries).—1st (£1), J. M. Balmbra, East Parade, Alnwick; 2nd (15s.), H. Waddington, Borobridge, Yorks; 3rd (10s.), T. Sleight, Danesmoor, Chesterfield; v.h.c., E. Wareing, Compton Cottage, Staverton; h.c., T. Marshall.

Three Shallow-frames Comb Honey for Extracting (7 entries).—1st (£1), T. Marshall; 2nd (15s.), O. R. Frankenstein; 3rd (10s.), Jas. Herrod; v.h.c., F. Coates, Ewen, Cirencester.

Twelve 1-lb. Jars Light-coloured Extracted Honey (47 entries).—1st (£1 15s. and B.B.K.A. Certificate), J. Boyes, Queen's Head Hotel, Cardiff; 2nd (£1 5s.), T. Marshall; 3rd (15s.), S. G. Hillier, Hurstbourne Tarrant, Andover; 4th (10s.), G. F. O'Fflahertie, Arreton, Isle of Wight; 5th (5s.), S. Cartwright, Shawbury, Shrewsbury; v.h.c., Mrs. Sopp, Crowmarsh, Wallingford; H. W. Saunders, Thetford, Norfolk; R. H. Baynes; R. Godson, Tothill, Alford, Lincs; H. W. Seymour, Alford, Lincs; A. G. Pugh, Beeston, Notts; W. J. Cook, Binbrook, Market Rasen, Lincs; G. Hunt, Newark; h.c., Hugh Linley, Market Rasen, Lincs; c., C. W. Dyer; A. S. Dell, Leigh, Lancs.

Twelve 1-lb. Jars Medium-coloured Extracted Honey (42 entries).—1st (£1 5s.), Mrs. Harris, Sibsey, Boston; 2nd (£1), R. H. Baynes; 3rd (15s.), E. Wareing; 4th (10s.), P. E. Grinsted, Streat, Hassocks; v.h.c., A. Firkins, Colwall, Malvern; C. Dyer; G. Marshall, Norwell, Notts; Mrs. Cooper, Stone, Greenhithe; Waldenhoe Bailey, Hough Green, Chester; h.c., Mrs. Seadon; Mrs. Ford, Leyton; O. R. Frankenstein; C. H. Rose, New Malden; W. Dixon, Beckett Street, Leeds; S. S. Clear, Royston, Cambs.

Twelve 1-lb. Jars Dark-coloured Extracted Honey (11 entries).—1st (£1), T. Marshall; 2nd (15s.), G. Hunt; 3rd (10s.), S. G. S. Leigh, Broughton, Hants; v.h.c., W. F. Trineman, Saltash, Cornwall; R. H. Baynes; h.c., G. Marshall.

Twelve 1-lb. Jars Heather Honey (10 entries).—1st (£1), T. Walker, Esthwaite, Hawkshead; 2nd (15s.), A. Young, East Street, Chatham; 3rd (10s.), H. Waddington; v.h.c., G. Hunt; J. Pearman; J. Birch, Windlesham, Surrey.

Twelve 1-lb. Jars Heather-blend Honey (12 entries).—1st (£1), E. Wareing; 2nd (15s.), A. S. Dell; 3rd (10s.), J. Birch; 4th (5s.), A. Baines, Guildford Road, Bagshot.

Twelve 1-lb. Jars Granulated Honey (17 entries).—1st (£1 5s.), E. Wareing; 2nd (£1), W. Woodley; 3rd (15s.), A. Young; 4th (10s.), T. Marshall; v.h.c., J. R. Freeman, Beedon, Billingshurst; J. Boyes; F. K. Softley, Letchworth, Herts.

Beeswax in Cakes, Quality of Wax, Form of Cakes and Package suitable for retail counter trade (11 entries).—1st (£1), W. G. Hills, Welwyn; 2nd (15s.), Jas. Herrod; 3rd (10s.), John Berry,

Llanrwst, North Wales; 4th (5s.), T. Marshall.

Beeswax judged for Quality of Wax only (18 entries).—1st (£1), Mrs. Harris; 2nd (15s.), W. Patchett, Cabourne, Caistor; 3rd (10s.), O. R. Frankenstein; 4th (5s.), John Berry; v.h.c., W. F. Trineman; W. J. Kitson, Stansted, Essex.

HONEY SELLING CLASSES.

Extracted Honey in Bulk (7 entries).—Certificates of Merit awarded to: J. Rowlands, Pwllheli, North Wales; W. Swabey, Bracebridge Heath, Lincs; W. J. Cook, Binbrook, Market Rasen, Lincs; G. Deller, Chrishall Grange, Royston; E. Matthews, Royston, Herts.

Extracted Honey in 1-lb. Jars (18 entries).—Certificates of Merit awarded to: J. Rowlands: H. Trerise, New Romney, Kent: R. H. Baynes; Sinfield and Barton, High Street South, Dunstable; W. Swabey; Miss Doris Burder, Barcombe, Lewes; H. D. English, New York, Lincs; J. R. Freeman; F. W. Gelder, Sturton-by-Stow, Lincoln: W. J. Cook; C. Wadey, Broadstone, Dorset; M. Killner, Denhams Farm, Billingshurst; E. Matthews; A. J. Harris, East Croydon; Mrs. Ford; A. J. Honliston, Chadwell Heath.

1-*lb. Sections* (6 entries).—Certificates of Merit awarded to: R. H. Baynes; L. Goffin, Goodwins, Wakes Colne, Essex; C. Wadey; and Mrs. E. E. Ford.

SOUTH OF SCOTLAND B.K.A.

ANNUAL SHOW AT DUMFRIES.

The above association's annual show took place in St. Mary's Hall, Dumfries, on Saturday, September 12. The entries were in excess of last year, and especially in the open classes the competition was of the keenest nature. In the open class for three 1-lb. jars of extracted honey nearly every one of the twenty exhibits staged was of the highest quality.

Mr. Wm. McNally, Glenluce, judged the classes for extracted honey, and Mr. Hogg, Castle Douglas, those for comb honey, and made the following awards:—

OPEN CLASSES.

Three 1-lb. Jars Extracted Honey.—1st, John Ross, Dumfries; 2nd and 3rd, Q. Aird, Hardgate Schoolhouse, Dalbeattie; v.h.c., J. M. Stewart, Castle Douglas; S. Cartwright, Shawbury, Shrewsbury; and H. W. Saunders, Thetford, Norfolk; h.c., James Beattie, Holywood, Dumfries; Q. Aird; and C. D. Johnston, Castle Douglas.

Three 1-lb. Sections.—1st, Q. Aird; 2nd, J. Ross; 3rd, H. W. Saunders; v.h.c., Q. Aird; h.c., F. J. Lashbrook, Tidworth, Hants.

Single 1-lb. Jar Extracted Honey.—Equal 1st, John Ross and Q. Aird; 3rd, S. Cartwright; v.h.c., Q. Aird and J. M. Stewart; h.c., H. W. Saunders.

Single 1-lb. Section.—1st, John Ross; 2nd and 3rd, Q. Aird; v.h.c., F. J. Lashbrook.

Beeswax.—1st, H. W. Saunders; 2nd, J. M. Stewart; 3rd, Q. Aird; v.h.c., John Rowlands, Pwllheli, North Wales.

MEMBERS' CLASSES.

Display of Honey.—1st, John McDonald, Lochfoot, Dumfries; 2nd, Q. Aird.

Super of Flower-honey (over 15 lb.).—1st, A. F. Borland, Cumnock; 2nd, Q. Aird; 3rd, A. Tait, Dalbeattie.

Super of Flower-honey (under 15 lb.).—1st and 2nd, Q. Aird.

Six Sections.—1st, Q. Aird; 2nd, J. Ross; 3rd, A. F. Borland; v.h.c., Q. Aird.

Three 2-lb. Sections.—1st, 2nd, and 3rd, Q. Aird.

Six 1-lb. Jars Light-coloured Extracted Honey.—1st, Q. Aird; 2nd, D. Johnston; 3rd, J. Ross; v.h.c., Q. Aird.

Six 1-lb. Jars Medium-coloured Extracted Honey.—1st, J. Ross; 2nd, J. M. Stewart.

Two 1-lb. Jars Extracted Honey.—1st (Silver Challenge Cup and Gold Medal), Q. Aird; 2nd, J. M. Stewart; 3rd, J. Ross; v.h.c., J. Ross; h.c., James Beattie; c., J. M. Stewart.

Two 1-lb. Sections.—1st (Silver Challenge Cup and Gold Medal), J. Ross; 2nd, J. McDonald; 3rd and v.h.c., Q. Aird.

Three 1-lb. Jars Heather Honey.—1st, Q. Aird; 2nd, A. F. Borland.

Three Sections Heather Honey.—1st, A. F. Borland; 2nd and 3rd, J. Ross.

NOVICES ONLY.

Six 1-lb. Jars Extracted Honey.—1st, A. F. Borland; 2nd, K. Dobie, Dumfries; v.h.c., Jas. Beattie; h.c., R. Armstrong, Dumfries.

Six 1-lb. Sections.—1st, A. F. Borland; 2nd, R. Armstrong; 3rd, K. Dobie.

LANCASHIRE B.K.A.

HONEY SHOW AT SETTLE.

The first exhibition of honey in connection with the North Ribblesdale Agricultural Society's show at Settle was held on August 29.

There were sixteen entries, and as an initial experiment this was considered very satisfactory. Dr. Anderton, Ormskirk, judged the exhibits and made the following awards:—

Six 1-lb. Sections.—1st (and L.B.K.A. Silver Medal), Captain Thompson, Giggleswick; 2nd, P. M. Ralph, Settle; r. and v.h.c., G. Addison, Giggleswick; h.c.,

Robert Wilcock, Selside, Horton; c., P. M. Ralph.

Six 1-lb. Jars Extracted Honey.—1st (and L.B.K.A. Bronze Medal), Alan D. Harrison, Stackhouse, Settle; 2nd. James Hird, Eldroth Hall, Clapham; r. and v.h.c., P. M. Ralph; h.c., R. Wilcock; c. A. Sedgwick, Selside, Horton.—JAMES N. BOLD, Hon. Sec., L.B.K.A., West Derby.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[7217.] I note that our friend "D. M. M.," on page 373, relates his experience with two swarms of this year, and his success with one of them—which reached him on June 18—almost makes one think of migrating to Banffshire, with a good supply of English June swarms for company. What a glorious holiday one could enjoy among the hills and vales of Old Scotia while the bees were rolling in the money! Or, to put it another way, if a June swarm produces honey worth two and a half times its cost, what will be the yield from an established stock that is prevented from swarming and works through the whole season? I congratulate our friend on his success, and imagine I am right in assuming that they were English bees.

Driven Bees.—My experience with driven bees has been very limited; in fact, I have only purchased a few lots from a friend, and there was no stipulation as to weight; but anyone who has driven bees will know how great is the difference in the quantity of bees in different hives. Therefore sellers of driven bees must often unite two or more lots to make up 4-lb. or 5-lb. lots; this being so, and in order to ensure such lots arriving at their destination in good trim after a long journey, they must be fed well before despatch. There are so many things to take note of to account for loss of weight in transit, as well as cost of syrup for feeding the bees before despatch, that buyers cannot expect the full weight unless the value of syrup is paid for. As one who has sent swarms to almost every point on the map of Scotland during the past twenty-five years, I contend that, in fairness to the purveyor, swarms of bees should be fed on arrival with sufficient food to put them on a par with a swarm on the evening of the day when it came off before they are put on the scales; if this is done, any fair-dealing man's bees would not be found wanting.

The Foul Brood Act for Ireland.—The rejoinder of "Cumbrian" in B.B.J. of September 17 (7211) to Mr. Farmer's letter on the same subject (7201) fails, in my opinion, to recognise the gist of Mr. F.'s letter (first paragraph). I understand the latter to say that he saw a draft of this Act some time ago, and pointed out to the authors the iniquitous scope of *a clause* which forbade removal from the (bee-keeper's) premises of the products (honey and wax) from an infected hive. I remember Mr. Farmer wrote me at the time, and I have on more than one occasion referred to the Act.

Wax-rendering.—May I give my own simple and effectual method of extracting every particle of wax from old combs? I have had solar wax-extractors which did fairly well in a general way, but they are too slow for a busy man, and only in *very* hot weather do they work satisfactorily. This summer I made a solar and dry-heat wax-extractor combined. I got a large box measuring 3 ft. 3 in. long, 2 ft. 2 in. wide, and 1 ft. 6 in. deep. I cut the top side of box slanting, tacked on the edges some strips of felt, put a bar of wood across the centre of box (this also was covered with felt), on it I laid two squares of glass, meeting on the centre bar; then I nailed a strip of wood on the highest end on the inside, and stretched a length of strong wire across the lowest end of box, and on these supports placed a length of corrugated iron, with a short length of iron guttering to carry the melted wax into the receptacle. In the bottom of this box I cut a hole 1 ft. square, placed the extractor on the top of another good-sized box, with one end and one side removed, and then took an oil-stove (a "Salamander") and placed it in the bottom box just under the square hole in the extractor. The old combs were then laid on, and on a sunny day the wax in these old combs was soon melted out and received into the tin below. No mess, no smell, no soiled coppers, and the refuse is as dry as chaff. I ought to have said the open end of bottom box is protected with a curtain to prevent the stove smoking through gusts of wind, and the glass squares being in two allows easy manipulating, such as stirring the old melted combs about with a stick.—W. WOODLEY, Beedon, Newbury.

OBSERVATORY-HIVES AT SHOWS.

[7218.] In answer to Mr. Potts's personal appeal (7213, page 375), there is to my mind nothing in the way of observatory-hives for honey shows so satisfactory as the unicomb—easily stocked, easily carried. In a permanent exhibition, where flight can be given to the bees, six combs are preferable as giving a good idea of the everyday work; but under ordinary show conditions all the instruction to be gained is physiological, and a knowledge of the inhabitants of a hive and their life-history can be obtained from the view of a well-chosen and well-exposed single comb as well as from three. Someone is generally at hand who can point out the queen and answer a novice's questions, and as a useful and attractive exhibit an observatory-hive is by no means to be despised. The mechanical arrangement of a modern hive can be better and more easily learned by inspecting the stock of appliance-dealers, one or more of whom are generally to be found at any important show. Apart from the difficulty of transport, the working model suggested by Mr. Potts would be of little advantage when out of work, as would practically be the case unless the bees could fly.

A few words as to what should be aimed at in a unicomb hive. The comb should be clean and attractive, built on foundation of the year, and the more representative of the full life of the hive the better. There should be a good queen in laying condition, bright and easy to recognise. Better too few bees than too many. The arrangement of glass and comb should be such that the bees do not overmuch obscure the comb surface: a single layer of bees is enough. On the other hand, there should be free passage everywhere, and on no account should the face of the comb at any point touch the glass. An observatory-hive containing a partly-crushed and weeping comb, with perhaps a flattened-out bee or two sticking to it, is a disgrace to bee-keeping, and the committee or the secretary, backed, if necessary, by the judge, should refuse to exhibit it.

There should be easily-adjustable shutters, and it would be well if some official or the owner occasionally gave the bees a few minutes' rest by shutting them. No one else should be allowed to handle the hive. Properly managed, there can be no suggestion of cruelty in such an exhibition, especially if the construction of the hive arranges, as it should, for the concealment of such casualties as may occur in the population.

All this cannot be achieved without some foresight. It will not do to take the first comb that comes to hand, even if it be a fresh one. About a week before the show one or two combs should be selected, and if, as often happens, the comb bulges out near the top-bar with stored honey, the protuberance should be cut off with a sharp knife, leaving the surface of the comb fairly level throughout. The cells will be sealed up again, or nearly so, by the day of the show. When arranging the hive, it is best to get the queen out of danger by caging her at the outset; she can be easily introduced after the comb has been inserted.

As regards the hive itself, there is not much variety of pattern, though in the past especially some have been unnecessarily cumbrous. A good pattern should be selected at a show and the maker's name ascertained.—H. J. O. WALKER (Lieut.-Col.), Leeford, Budleigh Salterton, September 18.

SO-CALLED EUCALYPTUS HONEY.

[7219.] It is indeed a long time since I have put my pen to paper to send a letter to the BRITISH BEE JOURNAL, but I have at last determined to do so in order to inform your readers of the true facts concerning the so-called eucalyptus honey of Australia.

In B.B.J., June 11, 1908, Mr. W. Woodley, Newbury, refers to this matter in the following words:—"I am wondering how the big consignment of Australian honey is selling. It is too strongly flavoured with the eucalyptus to suit the Britisher's palate, unless they have cleared the forests of gum trees and planted lucerne or white clover. If this is done they may get a chance for their honey in our market."

It is a fact known to most people out here that there is no connection whatever between the blossoms of eucalyptus trees and the oil of eucalyptus. The former possesses no taste of the latter, but is a distinct product. Why should the eucalyptus honey of Australia be any different from that of America? and yet the Australian eucalyptus honey is always spoken of contemptuously. The reason is this: Some years ago a chemist, hoping to make a fortune, bought a quantity of Australian honey and mixed some oil of eucalyptus with it, thereby ruining the honey and the reputation generally of Australian honey. This move on the part of one individual has proved so detrimental to the Australian honey industry as a whole that this mistake, as far as I know, has never been repeated since; but the mere fact of the past lives in the memory of the present, and so European countries are under the impression that all Australian honey is the same and has a taste of eucalyptus oil, which is a most

fallacious idea. Although Australia produces a considerable amount of very inferior dark honey, she is nevertheless capable of producing tons of most excellent light honey, which when properly graded and put on the market in an up-to-date manner must of necessity find a market in European towns, and I have no hesitation in saying that such honey will bear no trace of its Australian origin. As to the production of white clover honey out here I will write you later.—R. HAMLYN-HARRIS, D.Sc., &c., The Grange, Toowoomba, Queensland, Australia, August 13.

[We are very pleased to hear from our esteemed friend and former contributor Dr. Hamlyn-Harris, who should know whereof he speaks after his not inconsiderable experience as a judge at honey shows in England a few years ago.—EDS.]

B.B.K.A. EXPERTS' CERTIFICATES IN SOUTH AFRICA.

[7220.] In pursuance of my question *re* expert's certificate, I beg leave to trespass on the space provided for correspondents in order to go more fully into details. My action at this juncture is actuated by friend Crawshaw's jocose comment upon my case, which appeared on page 317 of the B.B.J. for August 6.

For the information of the British Bee-keepers' Association I would like to state that, in my opinion, there are, at the present moment, not more than a dozen persons in Cape Colony following apiculture on modern lines. By this I mean to exclude entirely the Entomological Department of the Cape Government and the few earnest members of the Port Elizabeth Bee-keepers' Association. True, during the past two years many hives and the usual bee-keepers' appliances have been imported and supplied to the public, but there are many persons here who, apart from possessing a modern hive, are almost as ignorant of what constitutes successful bee-culture as the much-maligned rural population of the British Isles. This is a fact which appeals most deploringly to anyone acquainted with practical apiculture, for several reasons. In the first place, there are, in many parts of this vast country, miles and miles of bee-forage untouched by any other than the wild bees, and consequently tons upon tons of honey and wax are annually lost to our commerce (which at present is at an exceedingly low ebb). Secondly, the people have not yet awakened to the possibilities in bee-culture at their immediate command if only they will commence the industry intelligently and with a will. Yet another point—which, in my humble opinion, is the most important one of all—is the fact that, in spite of all the facilities available, we have no foul brood to contend with, and few other inconveniences. South Africa in general actually imports honey in considerable bulk! Think what it would mean to the farming industry if only we had a few certified experts in apiculture to demonstrate the ease with which the average farmer could augment his income, considering the distinct advantages peculiar to this country as regards bee-culture. Here, as before mentioned, foul brood is unknown—this in itself places South Africa in a unique position; in many parts, particularly in the Eastern Province, bees are gathering nectar the whole year round; and I know for a fact that 150 lb. of honey per colony in this area is quite an ordinary "take" twice yearly.

Another point which appeals rather strongly to me, and which could be so altered as to make the outlook rosy for anyone contemplating bee-culture on a large scale, is the quantity of foreign honey annually imported into the United Kingdom. I think I am correct in stating that the approximate value of honey imported into the United Kingdom last year averaged between £2,500 and £3,000 per month, making a grand total of £30,000 or £36,000 for the twelve months. [The total value of imports of honey for the year 1907 was £31,929.—EDS. B.B.J.] Of this amount quite one-third was the product of other than British Colonies.

Now, I contend that South Africa ought to have a share in catering for the supply of honey to the United Kingdom. Moreover, I am of the opinion that, were bee-experts provided (certified experts, I mean), in a few years the bee-keeping industry would develop into as important a branch of rural economy as elsewhere; and it would indeed be gratifying to those responsible for the initial efforts to witness South Africa making a bid for the £10,000 or £12,000 now annually gravitating to foreign countries from the United Kingdom for honey imports. Perhaps the Council of the British Bee-keepers' Association will see the importance of stimulating efforts in the above direction by issuing experts' certificates to suitable applicants. In conclusion, I wish to add that my action in making application for a certificate a short while ago was prompted entirely out of my love for the bee-keeping industry in general, and because I thought I foresaw the means for raising the present deplorable status of the industry here to one of considerable importance, although, of course, my efforts in this instance would be far too feeble—but then it would be the first peg in the path to progress.

In this country experience seems to count for very little by itself. Certificates are everywhere in favour, and, unfortunately, in every walk of life *experience alone* has to give way to *certificates*—hence my reason for wishing to combine—or, rather, back—my experience with a B.B.K.A. expert's certificate. Apparently, as friend Crawshaw observes, my efforts, so far, have proved unavailing, and I must be content to mourn over current conditions here, and the rules of the B.B.K.A., which forbid the privilege asked for.

Apologising for taking so much of your valuable space, I send name, &c., for reference, and sign—A Cape Bee-keeper, Douglas, Cape Colony, August 29.

BEES IN THE ISLE OF WIGHT.

[7221.] May I through your journal express the thanks of myself and others in this part of the island to Mr. J. Silver for the trouble he has taken in sending us bees to start afresh, which action, I might say, has been successful up to now? The first lot has yielded a box of shallow-frames well filled, and the others have built up grand stocks. We would also like to thank Mr. F. D. Hills, Alton, for the gift of swarms, and Mr. W. Woods, Guildford, and Mr. S. Leigh, Broughton, for driven bees, which are building up fast with careful feeding. Thanks are also due to Mrs. Massey Spencer, who gave two complete hives to bee-keepers who undertook to destroy everything connected with their diseased hives, and to Messrs. Jas. Lee and Son for gifts of foundation. One lot of bees that came under my observation appeared to be affected for about three weeks after arrival. They had every symptom of the complaint, but after being raised up from the floorboard on a "W. B. C." "eke," and three balls of disinfectant put at the back of the frames, they improved in condition, and are all right now. I have had the pleasure of seeing bees belonging to others in different parts of the island, and all appear to be doing well. There are several bee-keepers who have no bees yet; they are waiting to see how ours are going to fare before they try again.—W. G. Colenutt, Bonchurch, I.W.

A SWARMING EXPERIENCE.

[7222.] About a fortnight ago I packed up my bees for the winter all in good condition (nine stocks), with plenty of stores in each hive. About noon to-day, when the sun was shining very brightly, I heard a loud humming, and, going from the shop into the garden, I found a swarm on the wing—surely a strange sight at this time of the year! Whilst the bees were flying about in the air before clustering, I examined the entrance to each hive, and found nothing at all to indicate the hive from which the swarm had issued. Turning my attention to the bees on the wing, I found them settling on the entrance of a hive containing a very vicious lot of bees. My first thought was that the swarm was simply returning home again. But no; very soon a battle was raging, and the swarm, settling on the hive-legs and under the alighting-board, gradually forced their way in. Evidently the owners have strongly resisted this invasion, the ground around now being strewn with dead and dying, and this evening the bees are still carrying out the slain!

I have kept bees for twenty years, but this, with me at any rate, is an altogether new experience. Having finished my winter packing, I do not intend to disturb the bees by examining each stock, but quite expect to find one lot queenless next spring as the result of this untimely swarming.

Stocks have done well here; plenty of honey, and the quality first-rate.

Without examination, I know it is only guesswork to offer a solution as to why the bees in question swarmed out, but I should like to hear if any bee-keepers have had a similar experience.—Chas. H. Dyche, Cookham, September 17.

DRIVEN BEES, SWARMS, AND NUCLEI.

[7223.] From what appears on the subject of driven bees *versus* swarms in the B.B.J. of last week (page 372), I take it that "D. M. M." has had only a limited experience of driven bees. The first lot I drove was thirteen years ago, and I got the bees to run from the skep direct on to drawn-out combs, and by careful feeding they managed to cover and well seal six or seven frames of food between September 18 and October 16. They were only a single lot, too, not weighing more than 2 lb. The stock yielded about 56 lb. surplus the next season; but I have done equally well or better most seasons with single lots. I sent a five-frame nucleus to Bardowie in April, 1907, and in the following April I had a letter stating that from the lot sent twelve months before the purchaser had got a top swarm, and then later he had divided the parent stock into two nuclei and secured 60 lb. surplus honey. Thus he now had three good stocks from the one five-frame nucleus. It must be borne in mind, however, that in this district surplus gathering is over by July 20, and the usual swarming-time is not earlier than June 14. Certainly, there are rare exceptions. But

as a rule 20 to 30 lb. of surplus is the utmost we can get from a swarm. Thus it seems a decided case of varying experience. For instance, the outside cost of a driven lot, when fed up, to cover seven or eight frames is not above 7s. 6d.; but I prefer to feed for three to four weeks, and by that means a goodly number of young bees are reared. Besides, when being fed they are gathering pollen, whilst established stocks are in a quiescent state. —A. H., Wavendon, North Bucks, September 21.

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. Macdonald, Banff.

Preventable Losses.—The editor of the *Canadian Bee Journal*, in a recent leaderette, says: "In the last four or five years very heavy winter losses have taken place. We believe that at least 75 per cent. of these losses were preventable by proper management." Mr. McEvoy emphasises this pronouncement as follows: "During the last three years over 80 per cent. of the bees in the province of Ontario died through poor stores, old queens, and unfavourable spring weather. Young queens and choice stores would have brought nearly every colony through the unfavourable springs. No class of stock requires improving as much as the bees of Ontario, and none is so badly neglected." These extracts speak for themselves, and they apply to a great extent to loss of stocks in this country. Remedy before winter packing.

Cheap Honey.—Canada, it seems, imports honey, and the quantity is increasing at a very considerable rate. Away back in 1888 it amounted to the modest quantity of barely 19,000 lb., bought at a cost of £600. This has increased to 621,000 lb., valued at £9,000. "Twenty thousand five hundred and ten pounds of the above came from Great Britain, and we (editor, *C.B.J.*) have a suspicion that much of it is a transhipment of tropical honey, as the price is only a trifle over 5.7 cents per lb. We do not believe that British honey can be sold for this price." Of course it cannot. Threepenny honey is not grown in these islands, and, moreover, we have no genuine British honey to export to our Colonies. Why, we *import* to the value of from £30,000 to £60,000 yearly.

"*Good-bye.*"—Alas! how many good and true journals devoted to apiculture sink beneath the waves. Just the other day, *Gleanings*, speaking of improvements in the bee-papers, said of the *American Bee-keeper*: "It is giving us once a month a great deal of practical and valuable matter," and now in the August issue Editor Hill intimates "this is the last issue"! I for one sincerely regret the intimation. Why, frequently those short paragraphs in its central pages, bearing the initials "H." and "M.," were alone, in a single issue, worth the cost of the whole year's subscription. I trust the pearls from both pens will now be transferred to some other of the American bee-papers.

Speciality v. Amateur Bee-keeping.—Mr. Hill, in his very last editorial, gives us the fruits of his lengthy and extensive experience that bee-keeping as a speciality will not lead on to fortune. "As a last word to those who contemplate embarking in bee-keeping as a money-making venture, I desire to go on record as advising against it. Yet as I have never been without bees during the past twenty-five years, I shall not be without an apiary while I remain in the flesh; for, as a side issue, they are profitable and afford a world of pleasure to one who, like myself, is very fond of them." A great writer has said: "For those who have once learned to love them, a summer without bees is like one without birds and flowers." The true bee-keeper's heart responds to this sentiment.

"*Two Desirable Crosses.*"—A very interesting and instructive article by Mr. Ralph Benton on the comparative merits of different classes of bees appears in the August *Review*, wherein he states that his experience leads him to favour crosses resulting from the mating of queens of pure Cyprian blood to either drones of Carniolans or Caucasians. In each case the desirable qualities of the two varieties obtain in the progeny. The Cyprian queen transmits the prolificness and honey-gathering qualities, while the good-tempered drones transmit the gentle disposition of the race. Some years ago we in this country set a fairly high value on a somewhat similar cross, but the resulting hybrid mongrel crew did much to harm bee-keeping, owing to the reversion in "the third and fourth generation to type characters," as Mr. Benton allows happens in his case.

Supers.—Mr. Townsend, in the same paper, again recommends "two extracting-combs in the side of each comb-honey super. We had only 14 per cent. of swarms from our whole yard, and not a single colony *sulked*. Every one that was in condition to store extracted honey went to work in the supers, and stored honey much more rapidly than with the bait-comb system." Two strong recommendations these of the greatest value, should extended experience prove them correct. If the use of these side-combs secured a more ready start in the supers,

more steady work, and checked the swarming fever, their presence is of the utmost importance.

The "Grand Old Man" of Apiculture.—Page 939 of *Gleanings* contains a portrait of the venerable Dr. Miller, now in his seventy-eighth year, and as he has been a bee-keeper for well-nigh fifty of these years, during at least half of which period he has been one of the most prominent, his claim to the appellation I have quoted will scarcely be disputed. Mr. Root, in the letterpress accompanying the picture, lets us into the secret of the genesis of "Stray Straws." About twenty years ago at a convention he said: "Dr. Miller, you have a peculiar talent for making bright comments in convention, throwing in a few pregnant sentences, and then sitting down. Do the same in *Gleanings;* make up a page of short items of running comment, something after the style of your convention work." In opening the successive fortnightly issues of *Gleanings*, the first pages always engage my earliest attention. They invariably contain something well worth reading, and I know I echo the feelings of many in this country when I sincerely pray that they may long adorn the pages of this excellent bee-paper.

Selection.—Dr. Miller has had the worst swarming season he ever experienced. All his stocks but thirteen swarmed, or made preparations for swarming. These non-swarmers were his old original stock, and he reasons from this that his efforts at breeding from bees not inclined to swarm have borne some fruit, because these thirteen are the results of special selection. "The one important point in the case is that there is some proof that by continued selection one can approximate a non-swarming strain." I do not know. I, too, have practically eliminated swarming, in a small way, but it is to *management* I am inclined to attribute the cause.

Bee Shows to Come.

September 19 to 26, at the Agricultural Hall, London.—Honey Show in connection with the Sixteenth Annual Exhibition and Market of the Grocery and Kindred Trades. (See large advertisement on page iv.) Nearly £50 in prizes for honey and beeswax, including four prizes of £4, £3, £2, and £1 in honey trophy class. **Open to all British Bee-keepers.**

October 6 to 9, at the Agricultural Hall, London.—Show of Honey and Bee Produce in connection with the British Dairy Farmers' Association. **Entries closed.**

October 21 to 24, at Waverley Market, Edinburgh.—Honey show in connection with the Twelfth Annual Edinburgh and Midlothian Industrial Exhibition. All open classes. Beautifully illustrated prospectus, price 2d., from A. Hutchinson, 15, Leith-street, Edinburgh. **Entries close September 30.**

Queries and Replies.

[3801.] *Queens not Laying at the Heather.*—I should be glad of a reply to the following question in your next issue, as I am going away from home in ten days' time for a fortnight. I took my bees to the heather, sixteen miles away, the last week in July, and brought them back on Thursday last. They have put no honey in the supers, but have a fair quantity in the hive-body, much more than when I took them. Unfortunately, however, there are no signs of brood or eggs in any of the combs. I therefore ask: Is this a usual result of sending bees to the moors, or does it point to something wrong? I may say all the hives had plenty of room both in brood and surplus chambers. Anxiously waiting your advice, I send my name and sign—E. C. S., Yorks, September 10.

REPLY.—The probability is that owing to the cold and wet weather experienced at the moors this autumn the queens have ceased laying earlier than usual. It is a common thing for a fair amount of young bees to be raised while stocks are at the heather if the seasons are at all favourable.

[3802.] *Packing "W.B.C." Hives for Winter.*—May I ask your advice on the following points with regard to wintering bees in "W.B.C." hives? Should the space between the outer and inner cases be packed with any material for warmth, or will it do to leave an open space all round sides as in summer? Name sent for reference.—A REGULAR READER, Coventry.

REPLY.—No packing is required round the sides, but plenty of warm coverings overhead.

[3803.] *Making Artificial Swarms.*—Next summer I should like to try to make three colonies from two as directed in the "Guide Book." These will at once commence queen-cells. When the first queen hatches will there be any danger of her leading off a swarm, or will the other cells be destroyed? If there be danger of that, how could I lessen it?—MEL ROSÆ, Yarmouth.

REPLY.—There is practically no danger of a swarm issuing from the parent hive from which the swarm is made. In any case, you may safely let the bees settle the matter of killing off surplus queens for themselves.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

E. T. L. (Northfield).—*Selecting Hives.*—Write to some of our leading advertisers for a catalogue and select the type of hive that suits your purpose best both for price and efficiency.

F. JONES (Birmingham).—*Extracting Honey.*—You cannot obtain honey from combs without using an extractor, unless the comb is rendered unfit for use again.

P. F. D. (Coventry).—*Packing "W.B.C." Hives.*—1. There is no need for packing the space between outer-case and body-boxes of the hive in question during the winter months. 2. Fifteen pounds

of sugar made into syrup will be sufficient for a 3-lb. lot of driven bees when given so late in the year as this. 3. There is not the smallest chance of queen mating so late as the last week in September.

ENQUIRER (Petersfield, Hants).—*Fruit Culture and Poultry-keeping for Beginners.*—You will have no difficulty in obtaining suitable books for your purpose at the office of the *Bazaar*, Drury Lane, London. Among them we may name the following:—*Fruit Culture for Amateurs*, in cloth, 3s. 6d.; *Home Gardening*, paper cover, 1s.; *Poultry and Egg-raising at Home*, 1s.; *Profitable Poultry Farming*, 1s.; *Popular Poultry Keeping*, 1s.

G. W. (Sussex).—*Charges for Expert Work.*—The usual charge made by those who keep an expert for such work as you have done is 7s. 6d. per day and travelling expenses.

R. H. (Cornwall).—*Honey for Showing.*—The only way of removing honey from sections without the help of an extractor is to remove the cappings, hang the combs in a muslin bag before the fire, and allow the honey to drain out. Care must be taken to strain it well and leave no bits of broken comb if the honey is to stand a chance on the show-bench.

VULCAN (Ayrshire).—*Bee-nomenclature.*—Bees sent are very young ones, and show signs of Carniolan blood, but it is too slight to call them hybrids. We advise you to adopt the common brown or native bee for your location.

HEATHER BELL (Chatham).—*Bee-keeping as a Business.*—Your best course would be to visit a well-equipped apiary where bee-keeping is carried on as a business in order to acquaint yourself with the nature of the work before attempting to rely on it as a means of obtaining a livelihood. It would also be needful to take a few lessons from an experienced bee-keeper if your venture is to stand a chance of being successful.

A. DACOMBE (Dorset).—*Rhododendrons for Bee-forage.*—1. We should keep the bees as far from rhododendrons as possible if honey is an object of any importance, and with thirty-five frame-hives on hand kept for honey production it would be a great disadvantage to have such forage near at hand. 2. You will be obliged to get a honey-press for removing heather honey from the combs, as it is too dense in consistency for extracting in the ordinary way. Good heather honey is always saleable at a fair price.

G. B. W. (Surrey).—*Starting a Bee-farm.*—You will be well advised to take time to investigate thoroughly the pros and cons of your proposed venture before you can hope to work it with profit. Read what is said on the subject in the "Guide Book," then qualify yourself for the work by studying the methods advocated therein, and take a lesson or two if possible from a practical bee-keeper who is himself making a profit from the craft. Above all, do not risk loss of capital in a venture without being fairly well informed beforehand.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence: for every additional Three words or under, One Penny.

1 TON EXTRACTED CLOVER HONEY, 58s. 2 cwt., tins and packing free. Sample 2d.—KENT, Bee Farm, Dorchester, Dorset. k 94

WANTED, Small Cottage, to Rent, with Orchard and one or two acres, suitable for poultry and bees, near holiday resort, South Coast preferred.—"COTTAGE," c/o BEE JOURNAL. k 98

Special Prepaid Advertisements.—*Continued.*

EXTRACTED ENGLISH HONEY, 50s. cwt. Sample 2d.; tins free.—DUTTON, Terling, Witham. l 10

2 HIVES OF BEES, 32s. 6d.; and 3 Cases of African Butterflies and Moths for sale, cheap, owner going abroad.—A. P., Rose Cottage, Pinkney's Green, Maidenhead, Berks. k 90

IMMEDIATELY DRIVEN BEES, with splendid Queen, 5s.; strong lot, package free; fertile Queen, in cage, 2s. 2d.—ROLLINS, Stourbridge. l 5

4 CWT. LIGHT EXTRACTED HONEY, 56s. cwt., carriage paid, for cash.—BENNETT, Heacham, Norfolk. k 91

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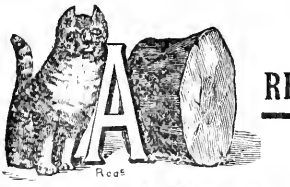
NEW  **READY**

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THE

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR

OFFICE 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

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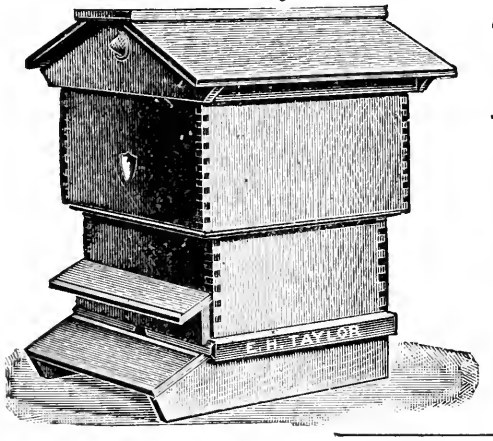

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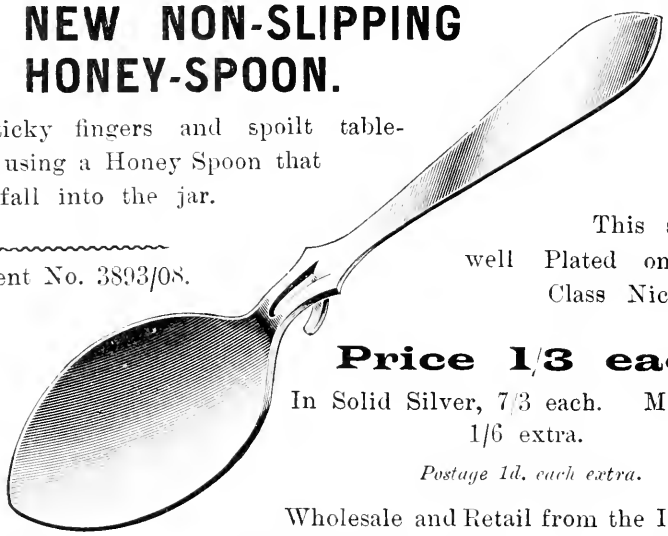

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Editorial, Notices, &c.

ALTRINCHAM AGRICULTURAL SHOW.

THE HONEY AND BEE-APPLIANCE SECTION.

An excellent display of honey and bee-exhibits was staged at this show, which was held at Altrincham on September 23, the section being much admired by visitors, of whom about 18,000 passed the turnstiles. In the trophy class five fine displays were staged, each worthy of a first prize.

The quality of honey in the classes open to the United Kingdom was superb.

The judges were the Rev. T. J. Evans and Mr. E. P. Hinde, of the Cheshire B.K.A., the following being their awards:—

OPEN CLASSES.

Complete Frame-hive for General Use.—1st, W. H. Brown, Wellington; 2nd, Mrs. W. Cartwright, Moore; 3rd, Geo. Rose, Liverpool.

Observatory-hive with Bees and Queen.—1st, W. H. Brown; 2nd, Geo. Rose; 3rd, W. Dixon, Leeds.

Twelve 1-lb. Jars Extracted Honey.—1st, R. W. Lloyd, Thetford; 2nd, R. Morgan, Cowbridge, Glam.; 3rd, A. S. Dell, Leigh, Lancs; r., H. W. Saunders, Thetford.

Display of Honey and Bee-products.—Equal 1st, W. Dixon and W. H. Brown; 3rd, A. S. Dell.

COUNTY AND MEMBERS' CLASSES.

Twelve 1-lb. Sections.—1st, Wm. Reece, Tarporley; 2nd, Norwood G. Bailey, Chester.

Twelve 1-lb. Jars Extracted Honey.—1st, Fred Wilkinson; 2nd, Jas. Dooley, Preston Brook; 3rd, Chas. Ellison, Preston Brook; r., W. Hulley, Northop.

Beeswax.—1st, Fred Wilkinson; 2nd, Job Astbury, Kelsall; 3rd, John Boden, Barnton.

COTTAGERS' CLASSES.

Six 1-lb. Sections.—1st, Wm. Reece, Tarporley; 2nd, C. Ellison; 3rd, John Cartwright, Moore.

Six 1-lb. Jars Extracted Honey.—1st, Fred. Wilkinson; 2nd, Jas. Dooley; 3rd, Chas. Ellison; r., John Boden.

DISTRICT CLASSES.

Six 1-lb. Jars Extracted Honey.—1st, Geo. Pennington, Ashton; 2nd, J. Johnson, Knutsford; 3rd, S. Jennings, Over Tabley.

Six 1-lb. Sections.—1st, Geo. Pennington. (No 2nd or 3rd awarded.)

A well-attended lecture was given during the day in the county B.K.A. bee-tent by the Rev. T. J. Evans.—THOS. JOHNSON, steward, Honey Section.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

[7224.] *Queen Disappearing.*—In early August I received a queen by post, which I decided to introduce directly, but she seems to have been a queen with ideas of her own. Freeing her from her train of attendants, she was kept alone for the orthodox half-hour, and carried thereafter to the hive. Puffing a gentle zephyr of smoke below the upraised corner of the quilt, the box-cover was removed, and she was given a chance of leaving her prison; but as she showed some reluctance to leave her temporary domicile I rashly raised the case to bring gentle pressure to bear on her, with the object of making her walk downstairs. Taking advantage of the momentary exposure, she took wing, and in an instant, in a rapid spiral flight, she disappeared in the gathering gloom. Naturally she was given up as missing. But not so. A few days after she was found marching contentedly on one of the central combs prosecuting her maternal duties, and the number of eggs in two central frames showed she was doing faithful service. The rather awkward *contretemps* was one I had no desire to boast about, but I was relieved on hearing from another bee-keeper that he had had an exactly similar experience, with a like pleasant and profitable result. The queen in both cases must have taken a moderate outing, and, circling round the hive in her circumambient flight, noted it as the central point, to which she ultimately returned. Her acute vision guided her to the entrance, and her pronounced sense of smell taught her intuitively that here was a home where she would be gladly welcomed. The sound made by the queenless bees and the odour emanating from the queenless hive both acted as directing guides, I doubt not.

Is it Queenless?—Certain signs of queenlessness are almost infallible, but at times queens are purchased, and even introduced, when the bees all the time have something they honour and respect as the head of their community. Unfortunately, they frequently cling to this to their own detriment, or even undoing, and fatuously reject and evict the new and valuable mother their owner has at considerable cost acquired for them. A superseded queen is generally retained and treated as a nonentity, while her young daughter heads the stock as egg-layer.

Should an examination of the frames reveal the old queen, as is likely, she is deposed, and the new purchase is introduced, oblivious of the fact that a daughter not yet impregnated, or at least not yet started ovipositing, is present as the real queen regnant. Naturally the bees reject the innovator as a spurious alien, and eject her, dead or dying. A diligent search, even repeated, may fail to reveal the presence of this presiding genius of the hive. Two points may be given which almost certainly reveal the presence of a queen. Note one or two of the central combs, and observe if a small round or oval area in the middle is cleared dry, and their base and side walls brightly polished. This seen, you can confidently conclude that a newly-fertilised queen is about to start egg-laying. The presence of a virgin, even if after diligent search she eludes your observation, can be certified by inserting a frame of eggs or very young larvæ. Should cells be started, there is no queen present; should no cells be observed in three days, some form of queen is present in the hive. As an index to the presence or absence of a queen both these points are infallible guides.

Collapse of Heather.—As has so very frequently happened within recent years, the heather blossom, when at its brightest and best, was suddenly wiped out as a secretor of nectar. Never was there a finer display of bloom, one universal mass of glorious purple, than our mountains and hills exhibited on August 24. Bees were exceedingly strong and in the very best heart for active work. But in spite of the mass of bloom and the strength of colonies, honey-getting was effectually snuffed out. The rains descended and the floods came, washing out the precious nectar and fouling the lovely purple landscape, leaving it a mass of dull and uninviting drab and brown. For over a fortnight almost continuous rains poured copiously, while cold north and east winds blew, effectively shutting in bees. Then when weather improved the source of supply was gone. The season was, on the whole, good—very good—but realisation fell very far short indeed of anticipation.

Prices have been good on the whole, those ruling most common being 9d. and 10d. for clover and 1s. to 1s. 3d. for heather honey. But a very great deal of the produce was sold at a lower figure, I believe. My own surplus was satisfactory, and sold readily at my own prices. One lady, who had purchased fifty heather sections, doubled her order "because the honey was the finest she had ever seen or tasted." My best baker's dozen of hives gave an average of fully sixty finished sections, one only, however, topping 100. But, as I noted earlier in the season, I had too many unable to yield any surplus. These are now strong and healthy, and should winter in prime order.

A Colour Index.—During the closing days of September weather has been very pleasant and favourable, so, my time being sparely occupied, I have done a considerable amount of observation. One thing has rather surprised me. The bees in my apiary for a few years now have become more mixed, and I note that, for pollen-carrying, the bees with most yellow bring in more and larger loads, and the nearer the shade approximates to the "black" the more quiescent are the bees. That shows, I presume, that these yellow queens are breeding later and better than the others. If a smell of honey can be obtained these yellows follow it in the proportion of twenty to one of the darker shade. If excitement unwonted and unexplainable is observed near the entrance of any hive, it is certain to emanate from the yellows. If on walking among the hives a few bees buzz angrily round my ears, they are certain to be largely gifted with the same markings. On attempting to count the number of pollen-carriers, if I approach too near these hives a little cloud of angry protesters seek to intimidate me. Near the packing-shed ten to one of the bees nosing about are yellows; racks containing "bait" uncompleted sections are cleaned up almost entirely by these marauders. I purposely spilled some syrup in a corner apart, and it was cleaned up entirely by these bees. Taking off two section-racks half a mile from my own apiary, three of my yellowest bees had a look in, to see if I performed the operation correctly, I presume. Puzzle: Find the better bee!—D. M. M., Banff.

OBSERVATORY-HIVES AT SHOWS.

[7225.] I ask your indulgence for a word in reply to Mr. Potts, whose letter appears in B.B.J. of September 17 (page 375). Seeing that I am responsible for the wording of the schedule to which he refers, I should like to say that I purposely made the conditions as wide as possible to admit any and every kind of observatory-hive, only stipulating that the whole face area of the comb or combs should be open to inspection. Mr. Potts has designed and made an excellent observatory-hive, being a complete section through a normal hive in the honey season, showing floor, body, brood-frame, excluder, shallow-bar, and sections—a most interesting and instructive exhibit for any show-bench. But I should be sorry to word my schedule so that all observatory-hives shown must adopt Mr. Potts's pattern or be disqualified. The judges are the persons to decide what is the best form of hive at any particular show, and, with all due respect to Mr. Potts and his American show schedules, I prefer to

leave the wording of our Altrincham show schedule in its present open condition.

The other hive to which Mr. Potts refers as "showing two queens in one hive, one being a virgin in a cage," was awarded first at Altrincham in 1907 and again first this year. It shows a full range of queen-raising apparatus—cell-cups, nursery-cages, &c., besides the comb with bees and queen, and it is quite as interesting and instructive in one direction as Mr. Potts's section hive is in another. My schedule admitted both, and the judges thought one hive better than the other. That Mr. Potts did not agree with the decision Cheshire bee-keepers know only too well, but I am just a trifle astonished to find that after a full year's consideration Mr. Potts still thinks that the Preston Brook pattern (excellent though it is) is still the one and only! But, setting aside Mr. Potts's dissatisfaction with the award, surely it was advisable and better that the schedule should be worded so as to allow both these and other quite dissimilar hives to compete than that a cast-iron set of conditions should result in bringing together five or six hives all of the same authorised pattern.

Colonel Walker's excellent plea for the single-comb observatory for show purposes (in this week's B.B.J.) shows that he also has decided views as to what constitutes a good observatory-hive for the show-bench. My schedule would admit his also, but if the judge happened to have a prepossession in favour of a three-frame hive, with ten thousand bees on every bar, I am quite certain that the Colonel would smile and submit. In the editorial foot-note to Mr. Potts's letter you refer to the conditions laid down for the Royal Show by the B.B.K.A. Will you kindly print the entry referred to, as I did not see a "Royal" schedule this year?

I enclose page of schedule for your inspection, and shall be glad to have your opinion and advice thereon with a view to its improvement.—Thos. Johnson, Seamon's Moss School Apiary, Altrincham, September 26.

[The single-comb observatory—or "Unicomb hive" as it was termed—was in common use at shows twenty or thirty years ago, and answered its purpose very well at the time, as it does now for a one-day show. But the needs of larger exhibitions at agricultural shows extending over several days made it necessary for the B.B.K.A. to adopt an observatory-hive holding several frames of comb, and affording facilities for the flight of bees while the show lasted. Not only so, but the most up-to-date observatory-hive leaves nothing to be desired as showing how bees take food, and allows the wonderful mechanism of the bee's tongue to be observed in action (between two plates of glass) with a magnifying glass. This sort of thing is far more suitable for an observatory-hive than any combining of queen-raising appliances, which is a branch of apiculture by itself. The clause in the schedule of the Royal Agricultural Society of England show was framed by the Council of the B.B.K.A., and reads as follows:—"Observatory-hive, with not less than three frames with bees and queen; each comb to be visible on both sides. (*The hive must be provided with arrangements for the flight of the bees during the time of the show.*)"—Eds.]

SWARMING EXPERIENCES.

[7226.] In answer to the request of Mr. C. H. Dyche (7222, page 387) for the experiences of other B.B.J. readers, I have during the past week had two such experiences myself. In both cases they were what are known as "hunger swarms," and Mr. Dyche's lot may have been the same, though it does not follow they came from his own hives. The first one to which I refer came from a neighbour's hive about a hundred yards away from my place, and I have no doubt the bees joined up of their own accord with one or more of my stocks, but there was no fighting of any consequence during the time. Probably the bees fraternised gradually, a few entering each of the hives. I did not hear of the occurrence till next day, when I made an examination of my place on my neighbour telling me he had lost a swarm, which had passed over my way. I found a little lot no bigger than a goose egg clustered round the stump of a plum-tree. The queen was not with them, but must have entered some other hive along with the rest of the bees, as I know the stock these came from, and there would have been ten times as many bees.

A week or two ago my friend asked me to take a super off a frame-hive of his, and I did so, having to drive the bees from the super and run them back on to the frames, which latter were quite empty of stores, as I told him at the time, and also urged him to feed the bees at once if he wanted them to winter safely. However, he did not do so, with the above result.

The other case occurred with a skep of bees, for which I made a long journey with the object of getting driven bees to put on some spare combs I had by me. I had two places to visit for the bees, not far from each other, and at the first I was informed that one of the skeps had swarmed that morning, and the bees had disappeared. On turning the skep up there was not a particle of honey in the combs, although there was a fair amount of brood. I drove two other lots at this place, and then proceeded to the next,

about a quarter of a mile away. The people there informed me that a swarm had come to their garden that morning, and had entered two or three of their hives. I at once concluded they were the bees I had previously heard of.

In each case the swarms appeared disposed to form a cluster, but did not do so, gathering together in a lot of little bunches, and ultimately flying very low, and without the usual music of a natural swarm, just cleared the hedge and flew along near the ground. I cannot say that I have had many such experiences myself, or heard of any such before at this time of the year, though hunger swarms are common in the spring when stores have run short.

Before concluding, may I be allowed to add a few words with regard to the past season as it affected myself? I was watchful enough to super only one stock last spring, and all my hives wintered safely but one lot of driven bees, which in spite of every care died in the spring, with candy on top and well wrapped up. It is clear that some bees have not the same strong vitality that others have. The bees of one stock will make headway in spite of all obstacles, and another cannot be got into condition, however well managed. My spring count was eleven stocks, and I sold three. I had three swarms, and secured altogether about 300 lb. of surplus, which was not bad, as three of the stocks could not be got into condition till too late, owing to the late and cold spring. The whole lot have plenty for the winter without feeding. Honey-gathering was over here about the first week in August. I had one rather amusing experience in June. The militia were encamped about a mile from my place, and one Sunday afternoon a sergeant came up with a message from the commanding officer asking me if I would take away a swarm of bees which were clustered over the door of the recreation tent, and keeping the whole regiment at a respectful distance. They were not my bees, and the swarm was "protected" by a provost officer and a sentry, both of whom remained at a reasonable distance.

I scraped the swarm into a mess-tin, let them run into a skep, and then carried them home, greatly to the surprise of the soldiers. Among such a number of men it was surprising that there were none who understood anything about bees.

The past season has been very variable in most districts; some have done exceedingly well, some fairly well, and some very badly. But we are now preparing for next year, and when it comes may it be a bumper for all bee-keepers.—G. F. West, Fareham, September 25.

A SWARMING EXPERIENCE.

[7227.] With reference to Mr. C. H. Dyche's letter on page 387 of the last issue, I would like to ask that gentleman if it really was a swarm, or has one of his stocks entirely absconded? This year I have twice had this happen to myself, an entire colony deserting their own home and trying to force their way into another hive, but on each occasion I have been able to catch their queens and then forced the bees back into their domicile. Still, it may be a fact that the hive in question has really sent out a swarm. But I cannot understand your correspondent's resolve not to disturb the bees by examining, though he "quite expects to find one lot queenless next spring." What strikes me is, how can he really expect the bees to winter at all, depleted as they must be (assuming them to have swarmed) and without a queen, because a fertile queen is one of the essentials of perfect hibernation, and without one the bees will constantly worry and never rest? Surely it would be best to choose the lesser of the two evils—viz., examine his stocks and thus find out which has swarmed. This done, he should replace the queen with a fertile one, doing this during a nice sunny day. But I should be very surprised if he did not find the hive empty.—R. Cooksley, Wolverhampton, September 27.

USEFULNESS OF OUT-APIARIES.

[7228.] Much interest is now being taken with regard to the establishment of out-apiaries as profitable concerns by many who are sufficiently experienced in the management of bees, and may have kept a few colonies for years near large towns where they reside and earn their living, and for convenience are compelled to live near their employment, and in consequence are unable to extend their bee-keeping as they would wish, owing to the congestion of their districts and the difficulty of finding suitable accommodation and forage for the bees to work upon. Under these circumstances it becomes necessary, in order to succeed in obtaining good crops of honey, to look for a more convenient site in the open country a few miles from home. And now that the practical work of the season is over, and the bees supposed to be snug in their winter quarters, it would keep alive our interest if some frank and friendly opinions were expressed upon the commercial and financial possibilities of what are known as out-apiaries.

I have often thought of the vast amount of nectar which flows into the flowers and is left to be wasted from the want of bees

and bee-keepers in these country places to gather and utilise what is annually produced. This great gift is being offered us every summer, yet in a very large measure we refuse to take advantage of it. Why is this so? Can there be any legitimate reason? When we consider that the United Kingdom could produce double and treble the quantity of honey which is gathered at the present time by an intelligent and extended culture of bees, I again ask: Who is to blame for this refusal of the people to reap so valuable a luxury which the land produces? It seems to me that there are three factors which act as deterrents—viz., the difficulty of obtaining a convenient place with a secure tenancy and a very small charge for accommodation, where the hives could be safely left without fear of outside molestation. Next, the heavy outlay of capital needed for stocks, shed, and appurtenances. Thirdly, the uncertain nature of the result, owing to weather conditions, which if bad during the honey-flow mean no return for a whole year.

These are the causes, along with minor difficulties such as loss of swarms, travelling to and fro, carrying produce, &c., which prevent out-apiaries from being more frequently met with. But it is a thousand pities that the advantages of the open country cannot be more fully realised by some of those in the front rank of bee-keepers: their experience, from a commercial and financial standpoint, would enlighten those who may propose to take this step, and if they would forward their views for publication in your pages, it would be useful in ventilating the subject, and might induce some suitable bee-men to venture afield in the hope of attaining success.—G. W. S., Swindon, September 23.

BEE-FLOWERS.

[7229.] That the lover of the bee should be also the lover of the garden is an undisputed point. The two lovers go hand in hand for their mutual benefit, each adding to the happiness of the other. In my capacity as gardener—amateur though I be—I find many so-called facts open to question; that my contradictory nature is aroused, and I seek for someone whom I can question, hence this letter. Amongst the flowers constantly recommended to bee-keepers to cultivate for the good of their pets is the sunflower, and I have therefore planted sunflowers, which are now (September 22) rearing their proud heads boldly up to the sun, their faces actually dripping tears of honey. There is a row of them about 25 ft. long, and numerous odd patches here and there in other parts of the bee-garden. I expected to find the enormous flower-heads full of bees, but never a single honey-bee do I observe sipping the sunflower nectar, while I count a dozen or so of the ordinary humble-bees on them. I am led to wonder if the experience of other bee-keepers accords with my own. In other parts of the garden I observe countless honey-bees upon the borage. This is a wonderful plant for bees: it blooms from early spring till late autumn, and the only needful thing for the gardener to do is to pull up the old plants when they are no longer ornamental or creditable to the garden. There will be found round about the mother plant handsome children ready to take her place, and to send forth blossoms both tempting and nourishing to the honey-bee. I have hundreds of plants, and will be pleased to give some to anyone caring to write to me for them.

I enclose one of the bees which are not too dainty to dine off my sunflowers. Will you be so good as to tell me what bee it is?—MARY SPENCER, St. Oswald's, Holywell, St. Ives, Hunts, September 22.

[We cannot help reminding our good friend Mrs. Spencer, whose racy letters are always interesting, that the sunflower is not recommended either constantly or at all in the B.B.J., and is not even mentioned in the "Guide Book" list of bee-flowers. At the same time we know that hive-bees do visit the sunflower for pollen on sunny days in autumn, when there is no other and more tempting bee-forage available. On the other hand, "borage" is a valuable plant for bees, the pendant flowers yielding nectar even in rainy weather. The humble-bee sent is a male *Bombus terrestris*, to be found everywhere in September, working on such flowers as are available for honey or pollen.—EDS.]

ANALYSIS OF AMERICAN HONEY.

[7230.] Referring to the composition of honey as mentioned in the B.B.J. of August 13 (page 321), it may possess interest for some of your readers to know how to obtain a copy of Bulletin No. 110 of the Bureau of Chemistry on the *Chemical Analysis and Composition of American Honey*, the price of which is stated to be 30 cents and postage 5 cents. Obtain from the post office an international money order for 1s. 6d., payable to the Superintendent of Documents, Washington, D.C., U.S.A., and forward same with letter of application to the Superintendent of Documents, Government Printing Offices, Washington, U.S.A. The total cost of same is as follows:—Amount of order, 1s. 6d.; cost of money order, 3d.; postage, 2½d. Total, 1s. 11½d. I have much pleasure in giving the above particulars,

which make the matter plain to all.—GEO. HAYES, Hon. Sec. Notts B.K.A., Mona Street, Beeston, September 25.

BEE-KEEPING IN MEXICO.

[7231.] Since the commencement of the rainy season at the end of June last we have been all but isolated here—all traffic suspended through the mountain trails being destroyed, and the mails delayed through flooded creeks and rivers, there being neither roads nor bridges. Consequently I have been deprived of the pleasure of reading your esteemed B.B.J. until last week, when I received several numbers, the last being August 1. I notice on page 277 Mr. Crawshaw requests me to state from what source was derived the very thick honey described by me in my letter of April 30, published on page 233. In reply, I beg to refer him to my letter of May 17, published on page 253, giving the source of honey and also enclosing you a sprig of the flower and leaves of the shrub for classification.

On June 12 I again sent you a half-bottle of the above honey, together with some bees, and I have been advised through the Post Office that the packet was sent with the British mail from Vera Cruz on July 2. I shall be very disappointed should you not receive it, as I much value your esteemed opinion on both, as also your advice on some questions I asked in some of the above letters. I should have advised the despatch of the packet from Vera Cruz before this, but it is difficult to write, or, in fact, to do anything: all is damp. The paper I have to dry over a fire before it is written on; dry clothes are unknown, and one's books get mouldy every night. Only the bees seem to do well, with ventilation.—FRANK W. BREACH, Chinipas, Chihuahua, Mexico, September 6.

[The non-arrival of the first sample of honey and bees will, of course, account for our failure to notice it, but the latest package came safely to hand, and will be shown at the Conversazione of the B.B.K.A., to be held on October 8, and we will report on same later on. With regard to the dead bees sent, they were mostly broken up into a tangled mass of heads, thoraces, wings, and abdomens, caused, we suppose, by the dryness of the bodies and the knocking about in transit. The few perfect bodies left, however, enable us to say they are much about the same size as our native bees here.—EDS.]

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Parthenogenesis (page 344).—I have read and re-read this most interesting letter from Dr. Martin Kuckuck, and it has given me a great deal of pleasure. But is it quite conclusive? Does the fact (col. 1) that golden queens may produce dark drones rank as proof? Mr. Sladen's golden bees are, I think he tells us, derived from a hybridisation with dark stock, and the Mendelian laws would lead us to expect signs of this. Admitting the weight of the scientific reasons (col. 2), it is difficult to believe that these apply of necessity to the drone-egg. At least, if the egg-nucleus has been fertilised, by what means has this been accomplished? Even granting that a drone-breeding queen may have met the male, how can we credit this relation to take place with the fertile worker, whose anatomy would appear not to allow of copulation or of storage of the spermatozoa? Again (page 345, item 1), whilst it may be true that feeding of the "fertile queen" affects the sex of the egg, this may be due to some difference in stimulation of the spermatozoa, which may, indeed, require a highly vital condition of the queen for their proper presentation. Item 2.—There is no difficulty in believing, according to analogy, that a young queen may have a mating period in which she is decreasingly attractive. Item 3.—Why should not an "unmated queen" delay egg-laying until this period be passed, seeing that she clearly possesses not only the instinct for the production of eggs, but also for mating and the production of fertilised eggs? Were it otherwise, she might presumably lay eggs immediately upon emergence from her cell. Or, again, how shall we account for the vigorous-fertile-queen pre-knowledge of the egg-sex? She would appear to make the change from male to female with unerring precision. Might we not expect that if the distinction were that of a preponderance, however great—and it cannot be very great—of semi-nucleus energy she should make a few cradle mistakes during the pendulum periods of reduction and increase of the energies? But has it been shown that a queen cannot lay alternative male and female eggs? Again, why should the worker-bees delay, if they do so, to feed a late-reared drone-breeder until the spring? If the failure to mate be not the reason, why does she not produce drones in the autumn, even when artificial food is provided? It is more than unlikely that all these drone-breeders mate in the late winter, as some occur in districts where it is almost beyond belief that drones persist. Has it been satisfactorily established by experiment with virgin queens confined to droneless hives for the winter that they will not lay if unmated, and that they will mate upon being given their liberty? Has it not been shown that aged queens may have an exhausted spermatheca? And does not this dispose of Dr. Kuckuck's contention

that exhaustion of the male element results in male progeny? And if examination of drone-breeders shows that they invariably possess clear fluid only in the spermatheca, this would at least be presumptive evidence against their having mated. If not, can it be possible that the clear fluid itself may be the product of an impotent drone?

It must be clear from the above that I have not yet had the privilege of seeing Dr. Kuckuck's work, which may indeed answer all my questions; but I should personally feel very grateful to the learned Doctor if he would favour us with a little more light, and I am sure that English-speaking bee-keepers will welcome an early translation of his book "Es gibt keine Parthenogenesis."

"*Wax Craft*" (page 353).—This review by "D. M. M." of Mr. Cowan's book should remind many of those who seem to be still in the dark as to the best method of rendering their combs that this mine of information is at their pleasure. We ought now to hear less of "what to do with our old combs" in the pages of the B.B.J., although such queries seem to be perennial. Now there is no excuse for those who desire to wax craftsmen, for they may render a true account of their old combs by realising the full value of what would otherwise be so much rubbish, or at best a poor fire-lighter, in spite of the contained wealth.

Foul Brood Act (page 355).—If I may say so, I think that Mr. Farmer's comments on the Act are very sound. The greatest care must be exercised in appointing inspectors, so that the industry shall not suffer from misuse of compulsory powers. Enormous good has unquestionably been done by the Diseases Act, but, as in the case of swine fever, these may press very heavily upon blameless individuals. There is no true analogy between them, however, for bee-diseases do not affect human health, and the law is enacted solely with a view to benefit the bee-owner. It is to be hoped that this will be the spirit in which its provisions will be carried out.

Honey-clogged Hives (page 363).—If any of my hives were in this fortunate condition—and I wish that all of them were—I would prefer to give clustering-room below and a reduced entrance, leaving all the honey in place, and only to remove if absolutely essential in the spring. This method ensures the provision of those invaluable helps to more needy colonies, and it is astonishing with what rapidity the clog will become fleet of foot!

Swarms versus Driven Bees (page 373).—I do not quite follow "D. M. M.'s" figures and reasoning. Surely the cost of carriage is not 4s. 3d. on each lot! This amount sounds more like the total for four lots. Again, 7s. is a heavy price to pay for one lot of driven bees. Four pounds of these can usually be obtained for 5s., so that these lots should have averaged nearly 6 lb. Now swarms do not average anything like this weight; and, even if the figures are quite correct, I think that a good lot of driven bees, which have stored naturally and bred in the autumn, should give a good account of themselves, for by the time the purchased swarm came to hand the erstwhile driven bees would be an established stock. The lower cost must, of course, be set against the winter risks, but this difference is more than a reasonable interest on the money sunk, which should not therefore be considered as "unproductive." Perhaps we may hear from a number of those who purchase driven bees every year, and learn how they justify themselves in general practice. I have no reason to feel dissatisfied with the returns from my own.

Bee Shows to Come.

October 6 to 9, at the Agricultural Hall, London.—Show of Honey and Bee Produce in connection with the British Dairy Farmers' Association. **Entries closed.**

October 21 to 24, at Waverley Market, Edinburgh.—Honey show in connection with the Twelfth Annual Edinburgh and Midlothian Industrial Exhibition. **Entries closed.**

October 22 and 23, at Kilmarnock, N.B.—Honey Show in connection with the annual exhibition of the Ayrshire Agricultural Society. Schedules on application to John Howie, Secretary, 58, Alloway Street, Ayr. **Entries close October 9.**

Queries and Replies.

[3804.] *Disfigured Sections—Bees Invading Houses.*—The sections I have recently taken this year have a peculiarly grimy look, although they are fairly well filled. The comb-capping is of a dirty grey colour, which gives the sections a look the reverse of appetising. I therefore ask:—1. Can this disfigurement arise from leaving the sections too long on the hives during all the damp and stormy weather we have had? I only took them off yesterday. 2. I also notice that the bees have been very lavish in using propolis this year, making a terrible mess of the section-frames, and appearing to have plastered it about everywhere. Even on the combs drawn-out but not filled it is dotted about like drops of melted sealing-wax. Can you tell me any reason for this? 3. On Monday, September 14, this house was literally invaded by bees for no reason that anyone could see. The sun was shining brightly at the time, and

at three o'clock in the afternoon the porch was filled by a cloud of flying bees, which spread all through the lower rooms, covering the windows and crawling about in the hall and elsewhere. This went on for over an hour, when, on the weather becoming dull, the flying bees which had not entered the house disappeared, but hundreds were afterwards swept up in a chilled condition all through the house. There was no appearance of anything like a swarm, even if such a thing was possible at this time of year; neither was there any honey, fruit, or anything exposed to attract the bees, as far as one could see. I may add that the hives are quite 200 yards away from the house. Can you give any reason for all this upset? Name sent for reference.—A. H. S. B., Hersham, Surrey, September 20.

Reply.—1. It is always advisable to remove sections as soon as they are completely capped over. It is not usual for the capping to turn "dirty grey" in colour, but the sections become travel-stained and disfigured when left on the hives. 2. The same may be said of propolising unfinished or empty combs; all such that are in surplus-chambers should be removed and packed carefully away for use next year while fresh and clean immediately honey-gathering for the year has ended. The bees will do no propolising after this month is out. 3. We cannot say from the particulars given what caused the invasion of your house by bees, but you may be quite certain that something has occurred either by exposure of sweets or the smell of jam-making, &c., to cause the upset mentioned.

[3805.] *Hives Returned from the Moors Broodless.*—I have just brought my six hives back from the heather, and find that none of the body-boxes contain either brood or eggs, the frames being in most cases filled with sealed honey three-quarters of the way down, and unsealed honey below. Does this often occur—that is, are hives often found broodless on being returned from the heather? I am also unable to find the queens. Is this a common occurrence? I send name and sign—Anxious, Farnley, Yorks.

Reply.—Those who have had experience in taking bees to the heather realise the necessity for keeping all surplus-chambers very warmly packed at the moors, otherwise the cold nights and lowered temperature are apt to cause the bees to cluster in the body-box or brood-chambers for warmth, and naturally to store any honey gathered in the warmest part of the hive—*i.e.*, the brood-chamber. The storms and floods which occurred soon after the heather season opened caused a stoppage of surplus-storing, and most of the honey gathered was stored (as in your case) in the body-box. It also put a stop to brood-raising.

[3806.] *Buying Bees on Shallow-frames.*—Will you please advise me in your next issue on the following? I have just bought a stock of bees in hive, and on examining them I find there are sixteen shallow-frames in it—eight at top and eight at bottom. The hive itself is also in bad condition, and in the frames there are both honey and brood in top and bottom of each. I am at a loss how to manage them, being a mere beginner with bees. I should like to get them into a new hive on standard frames, if it is practicable to do this, and so ask: Would it be advisable to do it now, or wait until spring? I may say there has been no honey taken from it this year, as the bees have been neglected all through the season. I send name, &c., and sign—Novice, Kirton Lindsey, September 26.

Reply.—Your best course will be to winter the bees on the shallow-frames, and next year, when breeding has started well, remove the bottom-bars from the frames in lower box, and set below it the 3½-in. "eke" of a "W. B. C." hive. This will make the shallow-frame box deep enough to take the standard frame. In this way the bees may be got on standard frames without much trouble.

[3807.] *Queens Ceasing to Lay in September.*—I have lately been examining my three stocks of bees, No. 1 being a swarm hived at the end of June on eight standard frames. I find they have a fair supply of sealed stores, but no eggs or brood in any stage; there are, however, plenty of bees and a splendid-looking queen. The bees of No. 2 I bought last year in a skep, and transferred them into a hive taking eleven frames. This colony has very little sealed stores, but plenty of unsealed food, and, like the first, there are no eggs or brood at any stage, while they also have a splendid queen, with plenty of bees. No. 3 has an abundance of brood and stores. I have been asking several bee-keepers if they can explain the cause why there is no brood in the two first-named hives. One says the bees have finished brood-rearing for the season; another declares that the bees will all die off before the spring, because they are old and worn out. Under these varying conditions, your advice will oblige through your valuable paper the B.B.J. I send name, &c., but please reply to—H. B., Knutsford, September 24.

Reply.—We should have been in a better position for giving a full reply to your queries if you had told us what amount of surplus—if any—has been taken from

the several hives during the honey season now ended, seeing that if none of the three colonies dealt with has yielded any surplus at all this season your district must be a very poor one for honey, and the cessation of breeding at the end of September need not cause any surprise. In the absence, therefore, of further particulars, we agree with your first-named friend so far as regards no brood being found in the hives.

[3808.] *Driven Bees and Brood-raising.*—I shall be very much obliged if you will kindly give me your advice in the following circumstances: On September 9 I hived a lot of driven bees, which were sent to me from a reliable dealer as having a young queen; but I did not see her enter the hive along with the bees, nor have I been able to see her since, though I have examined the frames carefully. The bees are taking in a little pollen as well as storing syrup, but there is no sign of eggs or brood. Am I to conclude that the queen has died, and is it too late to introduce another?—D. M. Elliot, Herts, September 24.

Reply.—Judging from the details given above, there is no valid reason for suspecting loss of queen; in fact, the symptoms point to the queen being safe. If—as we suppose—the bees were hived on comb-foundation, it will be soon enough to look for brood-raising a week or so hence, and then only if weather keeps fine. Meantime, you should feed the bees regularly and liberally with well-made syrup given warm.

[3809.] *Parasites on Humble-bees.*—I am sending you a wild bee, which was unable to fly, and on examination was found to have little white insects under the wings, which I suppose prevent it from using them. I should be much obliged if you would tell me what they are in your next issue of the Bee Journal.—M. C. M. K., Whitecroft, N.B., September 23.

Reply.—The bee is a young queen humble-bee of a common species—*Bombus hortorum*. The little parasites are Acari (spider and tick tribe); they do not interfere with flight. Most young queens have some of these parasites clinging to their long hairs. When the nest is started in the spring the Acari leave the queen and breed in the comb, feeding on pollen, wax, &c.

Notices to Correspondents.

H. E. G. (Jersey).—*Insect Nomenclature.*—The insect is a two-winged fly belonging to a group of which many species closely resemble bees, wasps, and other stinging insects, but they do no harm to honey-bees.

E. W. (Mapperley, Notts).—*Honey-extracting.*—1. You cannot possibly "extract" honey from combs without the help of a honey-extractor. To proceed as described is to obtain "run" or dripped honey, and requires the combs to be sliced up and put into a muslin or coarse flannel bag, and hung up before a fire to drip through after being made very thin by warming. 2. You can obtain a cheap form of extractor for 7s. or 8s.

A Regular Reader (Maidenhead).—*A Beginner's Questions.*—1. Shallow-frames of comb filled with honey gathered this year would in all probability be granulated solid before the show season of 1909 started, and in consequence only be fit for reliquefying by slicing the combs up and immersing the vessel containing them in hot water for a time. 2. Beeswax is worth from 1s. 4d. to 1s. 6d. per lb. to a dealer. 3. Granulated syrup may be used for bee-food by remelting and boiling. 4. When bees carry in pollen freely it is a sign that breeding is in progress. 5. By becoming a member of the B.B.K.A. you get, among many other advantages, the satisfactory pleasure of helping to promote the welfare of British bee-keeping in its best form.

E. M. A. (Colchester).—*Making Honey-vinegar.*—We are unable to account for the several difficulties you have experienced in vinegar-making, but can give you a much simpler method—that of a practical bee-keeper who has taken prizes at shows for his honey-vinegar, and never fails in making it. Get an empty cask that has been used for holding vinegar from your local grocer, and prepare the liquid as follows: Add 2 lb. of honey to each gallon of water, and mix well. The liquid is then paced in the vinegar-cask (which must on no account be washed out before use), and set the cask in a sunny corner of the garden, and leave for about three months from the first week in July. No "vinegar plant" is needed to start fermentation beyond what may be in the unwashed cask, and the liquid will be quite clear and bright without any further attention whatever.

D. J. Spencer (Natal, S. Africa).—*The "Alexander" System.*—1. A full description of the "Alexander" system of keeping several queens in one hive appeared in our pages several years ago; but the principles upon which it is worked were clearly explained by our Senior Editor at the Congress of Bee-keepers held in June last, and reported in the B.B.J. of August 6 (page 311). 2. You are evidently labouring under a wrong impression with regard to Roots' "A B C" book. The price of the new

edition for 1908 is 7s., post free, and we can send it direct from America to South Africa at that price on receipt of remittance.

BACILLUS (Maidenhead). — *Hampstead Heath as a Honey District.*—There are several places bordering Hampstead Heath in the Finchley direction where a very fair amount of good honey is secured in some seasons. Unfortunately for bee-keeping, the district is being rapidly built on, and the honey radius is in consequence becoming narrowed yearly.

WHITE CLOVER (Hereford).—*Wax Samples for Show-bench.*—No. 1 is a very good sample, the colour and clearness of the cake being fit for showing anywhere with a good chance of success. No. 2 is not so good, but is a nice wax for use in making comb-foundation. The piece of comb sent is affected with the disease known in this country as *Bacillus minor*, or odourless foul brood. It is far less destructive or dangerous than the other form known as *B. alvei*.

E. C. (Newton Abbot).—*White Patches in Granulated Honey.*—1. To avoid this, let the liquid honey run from tap into the centre of jar, and thus spread out gradually to the sides equally all round the jar. Also have the jars quite dry inside when used. 2. The honey is very good in colour and grain, but the white patches are certainly a blemish on its appearance.

Suspected Combs.

C. R. P. (Sleights, R.S.O.).—Sample is affected with foul brood of old standing, and, as it is the genuine *Bacillus alvei*, much depends on the extent to which the disease has spread in the hive from which sample of comb was taken. It is a bad time to start attempting to cure, and we should recommend you to destroy the stock if most of the combs contain dead brood such as in sample sent.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

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WANTED, Man, with knowledge of Carpentry, to attend to Apiary in North-East of Scotland; must be competent in all branches, canvass orders, &c.—Apply, giving certificates, "A. G.," c/o BEE JOURNAL. 1 26

1½ CWT. GOOD EXTRACTED HONEY, 56s. cwt., purchaser provide tins; sample 2d. Cash or Deposit.—RICE, Newton-road Apiary, Sudbury, Suffolk. 1 23

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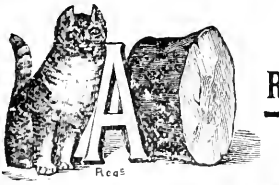

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AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

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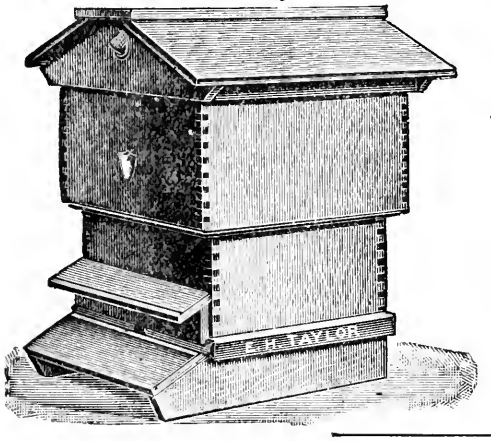

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THE

British Bee Journal

ESTABLISHED 1873.

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Correspondence: Whom to Address.—All matters relating to the Literary Department, Associations, Shows, &c., should be addressed "Editors, *British Bee Journal*," and all business communications and matters relating to subscriptions and advertisements to be addressed to the "Manager," *B.B.J.* Office.

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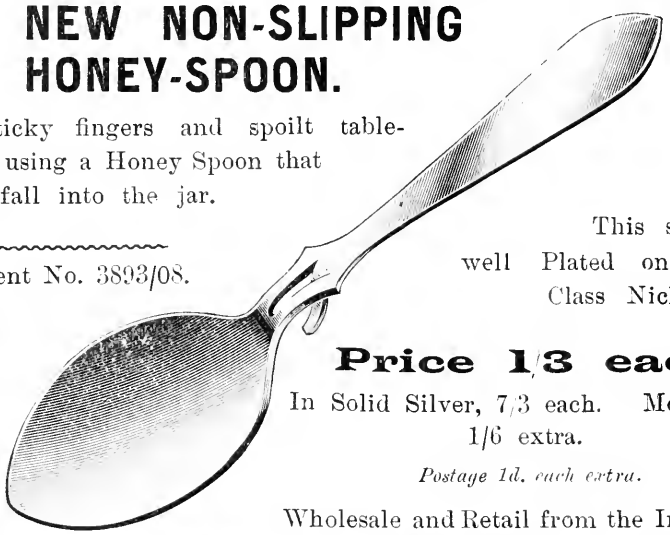

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The usual monthly meeting of the Council will be held to-day (Thursday, October 8) at the board-room of the R.S.P.C.A., 105, Jermyn Street, S.W., at 4.30 p.m.

On the conclusion of the formal business of the Council a Conversazione of members and of members of county associations affiliated to the B.B.K.A. will be held at 5 p.m., at which light refreshments will be provided.

Among the subjects for discussion are the following:—1. "Stings," introduced by Colonel H. J. O. Walker. 2. "Feeding Bees," introduced by Mr. F. W. L. Sladen. 3. "Selling Honey,"

REVIEWS.

The Lore of the Honey-bee. By Tickner Edwardes. (London: Methuen and Co. Price 6s.).—This is a fascinating book by the author of "The Bee-master of Warrilow." It is a history of bees and their masters from the very earliest times to the present. Bee-keeping is undoubtedly the oldest craft under the sun, and the author introduces the subject with one of the oldest and prettiest fables in ancient mythology, which deals with the origin of the honey-bee. We also learn that so far back as the Bronze Age it is certain that wax was used in casting ornaments and weapons. That bee-keeping must have been carried on thousands of years before the Great Pyramid was built is evidenced by the bee having been chosen to represent a king in the Egyptian hieroglyphic symbols. It is quite natural that the author should begin with an allusion to Virgil, who was one of the earliest writers on bees, and also an apostle of the Simple Life. He says truly that a beginner in apiculture to-day could not study a better book than the Fourth Book of the Georgics, for Virgil went direct to the heart of the matter. Pliny was a most prolific writer, but he, like nearly all the classic historians, had no accurate knowledge of the life within the hive, but he made up for this deficiency, as did all others of his time, by drawing upon his imagination.

Among Anglo-Saxons we are informed that bee-hives supplied the whole nation, from the king down to the poorest serf, not only with food, but with drink and light as well, for mead was served at all royal banquets and was in common use in every monastery. Coming to the Middle Ages, the author alludes to Rusden, Butler, and other authors, and shows how they repeated the errors of their predecessors. He tells us that the curious custom of "ringing the bees" is of Roman origin, but whether it was introduced by Cæsar's followers or was derived from classic reading is hard to determine. Having studied ancient writers, Mr. Edwardes comes to the conclusion that, "dipping into these time-worn records of the Middle Ages, with their embrowned, scarce legible type, and their antiquated phraseology, one comes at last to realise how very little the old bee-masters actually understood of the true ways of the honey-bee, or, indeed, of any real essential in bee-craft." In the fourth chapter the author introduces us to the romance of the bee-hive. The wonderful communal life within the hive is touched upon in all its varying aspects, and the reader is taken to a village in Southern Sussex where live two bee-keepers who represent the extremes of bee-manship as still extant in modern times.

The book is written in an unusually charming manner, there is not a dull page in it, and a perusal of the work is sure to fascinate every reader, who will find much useful information in its 280 pages. There are twenty-four full-page plates of fine half-tone illustrations, reproduced from Nature photographs. Not since the appearance of Maeterlinck's "Life of the Bee" have we been so charmed with a book on the subject, and we can thoroughly recommend it to our readers, who we hope will derive equal enjoyment in reading it as we did ourselves during a recent sojourn abroad surrounded by the grandeur of the Swiss mountains.

Honey and Health. By Archibald Hope. (Macclesfield: Archibald Hope and Co. Price 6d.).—This is an interesting booklet of forty-four pages, intended to show the advantages and value of honey as a health food. Mr. Hope says truly: "Honey is a medicinal curative agent, with bland, healing, feeding, fattening, nerve-soothing properties of the highest value in disease." We have ourselves known cases in which honey has acted as a curative agent when apparently there was no hope of the patient's recovery. In these pages the author has endeavoured to set down plainly the complaints in which honey may be used to advantage. Honey, he says, is "Nature's form of sugar," the cane-sugar of the nectar being inverted into the grape-sugar of honey. He tells how the human stomach can only deal with a very small quantity of cane-sugar at one time, which must be converted into grape-sugar before it can be digested, and how a comparatively small portion of cane-sugar impairs the digestive process. The mere fact of including honey in the daily food will be found to have a good effect upon the general health. The use of honey will obviate the necessity for

medicine, and the author quotes Sir Frederick Treves, who said that "he looked forward to the time when people would leave off the extraordinary habit of taking medicine when they were sick."

To obtain the best results as a therapeutic agent Mr. Hope recommends honey-tea as invaluable for dyspepsia, bronchitis, consumption, and other afflictions. How this should be made is fully described. He mentions a case described in *La Réforme Alimentaire* of an infant nine months old, dwindling away with vomiting and diarrhœa, just on the point of death, recovering on being fed on honey-water for eight days, on the doctor's advice. We ourselves had a similar experience some years ago. A man in our employ had a dying child, the case having been given up by the doctor as hopeless. We gave the mother some honey, with instructions to give a small quantity of it diluted with water at frequent intervals. The child not only recovered, but got so fond of honey that this became its principal article of food, and it grew up to be strong and healthy.

Honey-tea, says Mr. Hope, will help a man to struggle against alcoholism and the drug habit, strengthen the voice of a public speaker, and improve the complexion. We recommend our readers to procure this booklet and study the useful information it contains.

THE DAIRY SHOW.

The thirty-third annual show of the British Dairy Farmers' Association opened in summerlike weather at the Agricultural Hall, Islington, N., on Tuesday, October 6, and will remain open till Friday, the 9th inst. The total exhibits numbered 8,362, or nearly 400 more than at any previous show. The entries in the honey section, though more numerous than last year, were smaller than we hoped to see after so good a honey season as that of 1908; but, helped by five good trophies of honey, the bee-department formed an attractive section of the immense display of agricultural and dairy produce, which completely filled the large area of the new Gilbey Hall.

We were glad to see four entries in the class for Interesting and Instructive Exhibits of a Practical or Scientific Nature. This class was unrepresented last year. The one that took a well-earned first prize was staged by Mr. Geo. Hayes, hon. secretary of the Notts B.K.A., and was in the form of samples of pollen taken from all the best-known bee-flowers, which were shown in glass phials preserved in solution. There was also a copious collection of drawings (greatly enlarged) showing the various shapes of the different pollen-grains. Then to complete the whole we had a collection of slides mounted for the microscope for the use of lecturers. Mr. Hayes deserves every credit for his most interesting and useful exhibit, which is of interest to all bee-keepers as affording a test for ascertaining the sources of honey from the pollen-grains found therein.

Messrs. Thos. W. Cowan and W. Broughton Carr judged the exhibits, and made the following awards:—

Twelve 1-lb. Jars (Light) Extracted Honey.—1st, S. Cartwright, Shawbury, Shrewsbury; 2nd, J. Boyes, Queen's Head Hotel, Cardiff; 3rd, Jas. Lee and Son, Highbury, London; 4th, T. G. Hillier, Andover, Hants; v.h.c., G. Deller, Royston; E. C. R. White, Salisbury; H. W. Saunders, Thetford, Norfolk; H. W. Seymour, Alford, Lincs; R. H. Baynes, Cambridge; and W. J. Cook, Binbrook, Market Rasen; h.c., R. Brown and Son, Somersham; and W. T. Gunter, Cowbridge, Glam.; c., R. Godson, Alford, Lincs, and J. Balderstone, Authorpe, Lincs.

Twelve 1-lb. Jars (Medium) Extracted Honey (other than Heather).—1st, F. W. Frusher, Crowland, Peterboro'; 2nd, R. H. Baynes; 3rd, Jas. Lee and Son; 4th, Mrs. E. Seadon, Bromley, Kent; v.h.c., E. C. R. White; h.c., R. Brown and Son; F. J. Old, Piddington, Northants; and Mrs. E. E. Ford, Leighton.

Twelve 1-lb. Jars (Dark) Extracted Honey (including Heather Mixture).—1st, J. Southwell, Romsey; 2nd, F. W. Frusher; v.h.c., Jas. Lee and Son; h.c., R. Brown and Son.

Twelve 1-lb. Jars Extracted (Ling) Heather Honey.—1st, Tom Sleight, Chesterfield; c., J. Price, Oldhill, Staffs.

Twelve 1-lb. Jars Granulated Honey of 1907 or any previous year.—1st, Geo. Deller; 2nd, R. Brown and Son; h.c., Jas. Lee and Son and R. H. Baynes.

Twelve 1-lb. Sections of Comb Honey.—1st, R. Brown and Son; 2nd, Jas. Lee and Son; 3rd, T. G. Hillier; v.h.c., R. H. Baynes; C. W. Dyer, Compton Newbury; and J. G. Nicholson, Langwathby.

Six 1-lb. Sections of Heather Honey.—1st, J. G. Nicholson; v.h.c., J. Balmbra, Alnwick; h.c., J. McDouall, Kingussie.

Display of Comb and Extracted Honey.—1st, Richd. Brown and Son; 2nd, Jas. Lee and Son; v.h.c., C. W. Dyer and R. Brown and Son; c., Mrs. Seadon.

Beeswax (not less than 2 lb.) Judged for Quality.—1st, E. C. R. White; 2nd, F. W. Frusher; h.c., Jas. Lee and Son; R. Brown and Son; and J. Trineman, Lostwithiel, Cornwall.

Beeswax (not less than 3 lb.) in Marketable Cakes suitable for the Retail Trade.—1st, Jas. Pearman, Derby; 2nd, C. W. Dyer; v.h.c., Goodburn Bros., Peterboro'; Jas. Lee and Son; and E. C. R. White; c., F. W. Frusher and Mrs. Seadon.

Interesting and Instructive Exhibits of a Practical or Scientific Nature.—1st, Geo. Hayes, Beeston, Notts; v.h.c., Edward Robb, Outwell, Wisbech.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

OBSERVATORY-HIVES AT SHOWS.

[7232.] With your permission I should like to say a word in reply to Lieut.-Colonel Walker and Mr. Johnson, whose letters appear respectively on pages 385 and 392 of your last two issues. Lieut.-Colonel Walker's communication is clear and concise with regard to both the single-comb and the three-comb observatory-hive, and is well worth consideration as an authoritative one by intending exhibitors.

It is also clear that the idea of an observatory-hive, described as "a section through a modern bee-hive," does not appeal to our show committees as an educational exhibit of the way the modern apiarist obtains his honey.

I consider that Mr. Johnson's remark about a full equipment of queen-raising apparatus being admissible in an observatory-hive where the schedule reads, "Observatory-hive with bees and queen visible on both sides," is wide of the mark. Surely to be instructive it need not cause even a smile to the practical bee-man.

The exhibit to which he refers contained (1) a virgin queen caged on the same comb as the laying queen was on, and described on the hive in writing as showing the introduction of a virgin queen. Are virgins introduced this way? (2) Tiered above this was a second comb practically empty, and presumed to be an extracting comb with a piece broken out of one end, and cell-cups attached to the top-bar, where a piece of comb was cut or broken away.

I would also ask: Are queen-nurseries usually put loosely into a hive? Also, should they be so placed that the queen-cells are horizontal? I have always understood this is detrimental to the embryo, and have never seen or heard of them being so placed in any work on queen-raising.

Again, are four sections usually placed on a 17-in. top-bar without either rack or frame? These questions all refer to the "interesting and instructive exhibit" which Mr. Johnson quotes and criticises.

As you know, my first communication was sent weeks before the Altrincham show spoken of by Mr. Johnson took place, and I had no knowledge of the hive mentioned being shown there this year, and although a year may have passed away, it still appears to me an unsatisfactory award and a subject well worthy of discussion in your valuable journal.

Certainly I do not consider or wish that my hive should be considered as the only perfect pattern of what an observatory-hive should be, even though it was made to comply with the judges' suggestion in their report upon that class at the Chester show of 1906.

Thanking you for your courtesy and editorial remarks, and also for copy of "Royal" Show schedule, and trusting that the discussion may be beneficial to all exhibitors of observatory-hives, and be the means of promoting the benefits of British bee-keeping in its best form.—HERBERT POTTS, Dutton, Preston Brook, October 3.

BEE-FLOWERS.

[7233.] It may be argued by the Do-nothings and Sit-stills (for there are Sit-stills and Do-nothings in the bee-world as in other worlds) that it is futile to plant in one's garden the seeds or roots of flowers in order to give our bees refreshment. There is, however, another view to take of the situation, and it is this: that our variable climate gives us many a day at all periods of our seasons on which it happens that the bees, even if not confined to their hives, are afraid to venture far afield by reason of coming storms or high winds.

Our bee-gardens are usually in some sheltered spot, or our hives are placed in the cosiest corner of the garden, which situation naturally affords a suitable spot for early blooms.

I have visited a "bee-city" where hives are closely congregated, and have seen beneath and around the hives nettles of various heights, chickweed of monopolising proportions, dandelions, nightshade, hen-and-chicken weed—oh! such a medley of useless greenery growing where there might be, and should be, plants of greater beauty and usefulness. Nature abhors a vacuum, so she finds the wherewithal to furnish even the small vacancies around the hives, leaving us to undo what she has done if we do not approve of her handiwork. With some care, and perhaps a good deal of patience, we can uproot (mind, they must be *uprooted*) the nettles, clear off the chickweed, kill the dandelions by putting a pinch of salt into the cavity made by cutting off the crowns of the plants, and in course of time utilise the vacant ground for vegetation which will

at once appeal to the eyes of those who love neatness and order. When planting immediately in the vicinity of the hives one has to remember that in the spring the space in front of each hive must have a fairly flat surface, in order that the hiving board or sheet may be placed there when needed. I find that *Limnanthes Douglasii* meets this case. It grows but a few inches high, and so soon recovers from the pressure of the hiving-board that very little real harm comes to it. Indeed, a good watering through the rose of a can will start the plants off blooming again better than ever, to the joy of the bees, who revel in the flowers. Crocuses are usually over before hiving begins; they can be grown on the same space as the *Limnanthes*, also snowdrops and aconites, thus making a very pretty carpet all about the hives.

A noted bee-man remarked to me that he always liked to give his bees a good breakfast before they went out to work. This is a charitable idea, and certainly commends itself on the grounds which I have stated; also, as a correspondent remarks in a letter which I received this morning asking for borage plants, "it gives one a better chance to see the bees at work."

With regard to the sunflower, which the Editor tells us "is not even mentioned in the 'Guide Book,'" I have a bit of information to give to the author of that charming and valuable work: there are sunflowers *and* sunflowers. During the past few days I have discovered that although *my* bees will not be tempted to feed on that which *Bombus terrestris* devours with avidity, they are nearly as happy on the perennial sunflower as they are on the borage. The former sunflower is annually raised from seed; the latter, being a perennial, is best procured in a clump. I think the author of the "Guide Book" may venture to assert that some sunflowers can be recommended as bee-flowers.

Since I wrote the letter appearing in the B.B.J. for October 1, I have been inquisitive enough to try to find out the reason for honey-bees not being tempted to sip nectar from the annual sunflower. My inquiry was made to the flower itself: I tasted, my decision was speedily arrived at, and I no longer wonder. The "teardrops" are not honey at all, but a most forbidding and highly-aromatic gum resembling turpentine, but not nearly so nice.

It seems reasonable to suggest that bee-keepers should take interest in the flowers which are needful to the well-being of their little slaves. The flowers themselves—and their name is legion—give ample return for the trouble bestowed upon them. I have given the matter a good deal of study, and have procured when and wherever possible some new and "dainty dish" to set before the bees.

Referring once again to the nettles in that particular bee-city, may I add that whenever I see a bed of nettles I always think of the proverb "As you make your bed, so you must lie on it," and I hope and trust and pray to the goddess of Fate that such a bed may never be mine. This feeling acts as a stimulus to one to *uproot* every nettle growing in one's own domain; but both physically and morally it takes a long while doing.

I have received so many applications for borage plants that I am bewildered, but I hope in time to answer them all. Some applicants have sent stamps for postage, some have not. I am, of course, attending first to those who have been so thoughtful as to enclose stamps, and—what is not perhaps quite fair—in the case of surplus I am using it for those who have not been so thoughtful; in this way I am making the liberal ones the benefactors of their kind. Please say that I am justified in doing this, and appease my conscience.—(Mrs.) Mary Spencer, St. Oswald's, October 5.

[Our correspondent should wait for stamps to cover postage before sending any plants.—Eds.]

FOUL BROOD ACT FOR IRELAND.

[7234.] When I had finished reading the letter of your correspondent "Cumbrian" (7211, page 374), in your issue of September 17, I was—to put it mildly—astonished at his criticism of the Act, especially as he expresses a hope we shall have a similar measure passed for England. Why, I ask, should honey and wax be destroyed? We are authoritatively assured that honey from infected hives is perfectly wholesome as food for human beings, and wax similarly affected cannot be considered unfit for furniture polish or for waxing thread! Before "Cumbrian" referred to the omission on this point in the Act, he should have mentioned one that occurs in Clause 1, but I do not see that he mentions another at all. Clause 1 of the Act distinctly says: "If any person, keeping or having charge of bees, becomes aware that the bees, or any of them, are affected with foul brood, he must report it"; and if, as "Cumbrian" in effect says, many never become aware of their bees being diseased until told, Clause 2 provides the means of finding it out for them and informing them of the fact. I do not, therefore, see anything wrong with the procedure; but, in any case, what does it matter which clause is printed first? What I cannot understand is the unaccountable pessimism with regard to the calamities likely to happen to bee-keeping when the Act

is put in force. Surely the inspector will be credited with possessing a reasonably level head, so we need not take into account the possibility of his losing it! "Cumbrian" seems to think we shall have a new rendering of the "prevention better than cure" idea, and that we shall straightway be ordered to burn every infected bee-hive discovered, and so save the trouble of trying to cure!

No definition of an area is given, therefore it may mean anything. It seems to me as if "Cumbrian" wants the Department to draw rings round localities and ask the *Bacillus alvei* to take up its quarters there! How can a proscribed area be defined until the reasons for taking that course are ascertained?

Clause 4 does not say, *all* bees, &c., are to be destroyed, but the Department may cause *any* bees, &c., to be destroyed; and Clause 6 provides that compensation may be paid. So why talk about the bee-keeper's savings and capital being lost? Do they not lose now through disease, which it is the object of the Act to prevent? Besides, we must remember that very few bee-keepers keep large numbers of hives; the great majority potter along with a few, and these are the people who allow foul brood to spread. People do not go scouting round to find an affected district to start bee-keeping in, and if under the Act they are warned against such places they can go elsewhere, and so save their money instead of risking it.

Referring to Clause 7, your correspondent says: "Locality as to the individual position has but little to do with foul brood," and then refers to "relaxing districts being more congenial to the disease than a bracing atmosphere," and advises bee-keepers to keep their colonies clean and strong; but on his own showing we let them do the other thing; and how does he propose to deal with the offenders? If anyone has any better ideas, by all means let them be heard; but I fail to see that wholesale fault-finding is just to those who are making an honest attempt to deal with the evil.

In fact, unless there is a healthy body of public opinion behind it which is prepared to take some trouble in the matter, it is often very difficult in the case of these permissive Acts, which may do so much, to get the local authority to move at all, and it was with pleasure I read in the same number of the B.B.J. the account of the working of the Foul Brood Law in Colorado from an inspector there, which shows how the thing can and ought to be done. In closing I may be allowed to say I read all the arguments in your pages when the attempt was made to get a Foul Brood Bill introduced in the House of Commons for this country, but did not join in the discussion at the time. You will, however, gather from what I have now written that I am in favour of some sort of action being taken in the matter, which I am convinced will be to the advantage of bee-keepers generally.—W. Doleman, Keyworth, Notts, September 21.

BEES LOCATING HIVE-ENTRANCES.

[7235.] During the current week I have had occasion to raise about 6 in. a long iron stand, on which four of my hives have been placed for some years. Ever since the alteration in height I have noticed that most of the foragers, on their return, aim several inches below the alighting-board before settling and running into their hives. This seems to me to prove that bees have some special sense of direction and distance, which they use more than the power of sight in making for the entrances to their homes. If this is the case—and many other facts point in this direction—the question arises—Where is the organ of such a sense located? The antennæ suggest themselves, and if it is true that a bee, deprived of these "feelers," is unable to find its way home from even a very short distance, the inference seems clear. Further experiments and observations might throw light on the above-mentioned points.—W. H. Harris, Hayes End, Middlesex, October 3.

CORNISH NOTES.

A VALEDICTORY LINE.

[7236.] I have recently paid a visit to Scotland, and found the climate there very much like winter here as regards atmosphere and rain. It is quite evident that bee-work which would be quite in order here in September or October would be utterly unsuitable in Scotland. The scenery there is good, and the people most agreeable, good-looking, and healthy, but I do not admire the climate. It is greatly to the credit of the people that their enterprise and industry enable them to live in a rather barren country and with a climate none too favourable to agriculture. There are no better farmers than those of Scotland. I saw abundant evidence of their skill on every hand. The Scotch are certainly a very superior people, well educated and civil, and it is a gross libel to say that "it takes a surgical operation to make a Scotsman see a joke"—they are quite a fun-loving people. I admire them very much. The Scotch city system of living in flats is not, however, so agreeable as having an independent house of one's own.

I journeyed to and from Scotland viâ Falmouth, Dublin, and Greenock by sea,

and had a most enjoyable voyage, infinitely preferable to railway travelling—good boats, good berths, and good food. I strongly recommend the sea to all who desire ease and comfort. Sea-sickness, in my opinion, is simply a form of biliousness, and may be avoided by eating only in strict moderation both before and during the voyage, unless indeed it blows great guns. I have never yet suffered from sea-sickness. I have had about thirty sea-journeys, some of forty-eight hours' duration. I like the sea; the deck of a ship in dry weather is an exhilarating place.

In concluding these notes, I add a line to say that for the present I am without bees, having sold my apiary holus-bolus; therefore, if the BRITISH BEE JOURNAL knows me not for a time, the reason will be apparent. I take my leave for a period, and wish prosperity to all my friends in England, Ireland, and Scotland. —W. J. FARMER, Redruth, October 3.

BEES INVADING HOUSES.

[7237.] With reference to your Hersham correspondent's inquiry (3804, page 397) in last issue of B.B.J. *re* "Bees Invading Houses," the following account of an experience I had may interest your readers. On returning home from business one evening in August, I received an urgent message to go along to the bees which I keep in my brother's garden some distance away. On my arrival I found everything in a state of uproar. Half a dozen kitchen-windows had the appearance of observatory-hives, and I was informed that washing operations had had to be suspended in two houses, whilst in a third it had been impossible to feed the baby on account of the bees being attracted to the sweet-smelling feeding-bottle. The local grocer had never seen so many "wasps" in his life, he said, and, judging from the number of my poor workers dying in his window, he probably had not. I am particularly anxious not to give neighbours any cause for complaint, and in this case they not only had cause, but did complain very loudly. Also I was a good deal troubled at the heavy losses of bees. However, I had to discover the cause of the upset, and on going into the garden, where the air was full of bees circling round and round, I observed a thick cluster round the ventilating-cones of one hive. I decided the trouble was there, and so took off the hive-roof, and found I was right. When putting on the feeder (an ordinary glass jam-jar inverted, with linen tie-over) on the previous evening I had omitted to completely cover it up, and the syrup had gradually soaked through the linen, and this the bees had discovered through the ventilating-cone. I covered up the feeder completely with newspapers, closed the ventilator, and as the evening wore on the disturbance ceased. Experience is a good school, and one lesson of this kind is sufficient. Since then I have given quarts of syrup, but it has been safely protected, you may be sure, and I have had no further trouble. Another dose of house-invasion and I am afraid my neighbours will insist on my making use of your prepaid advertisement columns!—ST. WOLSTAN, Staffs.

THE SEASON IN OXFORDSHIRE.

A GOOD REPORT.

[7238.] As a regular reader of the BRITISH BEE JOURNAL and *Record* I thought some of our brother bee-keepers would like to know how we have been getting on in Oxfordshire, and I therefore write to say I started the season with five frame-hives, and just before the heavy snowfall we had in April I took the precaution to put a large cake of candy on each hive. The cakes weighed about 3½ lb. each, and were made from Bro. Columban's recipe in the "Guide Book." As soon as the weather changed for the better and became warm, my bees were all strong and ready for work, and during the season I have taken off the following amounts in surplus from the five stocks: No. 1, 134 well-filled sections; No. 2, 90 sections; No. 3, 90 sections; No. 4 (a nine-framed hive), 126 sections; and No. 5, a strong swarm and 55 sections. This swarm has well stocked a straw skep into which it was hived, and given six well-filled sections; so that I have taken in all about 501 sections and about 77 lb. of run honey, making a total of about 578 lb. of honey, in addition to the swarm: a result with which I need hardly say I am very well satisfied.

I may also add a line to say that a lady in this neighbourhood, to whom I lend a helping hand in time of need, has secured 250 sections from her four hives: and another lady, who is quite a beginner, has only one hive, and I have taken for her sixty well-filled sections from her single hive this year.—C. L., Oxon.

PARTHENOGENESIS.

[7239.] May I be allowed to point out a printer's error in "Cappings" of last issue? On page 396, foot of col. 2, I desired to say: "Does not this dispose of Dr. Kuckuck's contention, *in* that exhaustion of the male element results in male progeny?" The omission of the word "in" gives the sentence almost an opposite meaning. Also a score of lines

above the word "alternative" should read "alternate." I fear that my faulty writing may be responsible for these errors, which I shall be much obliged if you will very kindly correct to prevent misunderstanding. — L. S. Crawshaw, October 3.

WEATHER REPORT.

Westbourne, Sussex.

September, 1908.

Rainfall, 1·91 in.	Minimum temperature, 35° on 13th.
Heaviest fall, ·48 in. on 3rd.	Minimum on grass, 33° on 13th.
Rain fell on 17 days.	Frosty nights, 0.
Below average, ·07 in.	Mean maximum, 62·4
Sunshine, 149 hours.	Meanminimum, 47·8.
Brightest day, 10th, 10·8 hours.	Mean temperature, 55·1
Sunless days, 2.	Below average, 1.
Below average, 23·7 hours.	Maximum barometer, 30·245 on 14th.
Maximum temperature, 70° on 19th and 30th.	Minimum barometer, 29·287 on 1st.

L. B. Birkett.

SEPTEMBER RAINFALL.

Total fall, 2.82 in.
Heaviest fall in 24 hours, .65 in. on 3rd.
Rain fell on 19 days.

W. Head, Brilley, Herefordshire.

Bee Shows to Come.

October 21 to 24, at Waverley Market, Edinburgh.—Honey show in connection with the Twelfth Annual Edinburgh and Midlothian Industrial Exhibition. **Entries closed.**

October 22 and 23, at Kilmarnock, N.B.—Honey Show in connection with the annual exhibition of the Ayrshire Agricultural Society. Schedules on application to John Howie, Secretary, 58, Alloway Street, Ayr. **Entries close October 9.**

Queries and Replies.

[3810.] *Driving and Transferring Bees.*—Will you kindly help me through the B.B.J. as soon as possible? I drove bees from a skep some days ago at 2 o'clock, as advised in the "Guide Book," and tried to join them to another stock of bees in a frame-hive, but I floured the last-named bees first and treated the driven bees in the same way after I had shaken them out in front of the hive. A few entered, but the bulk took wing and, after flying about for a time, clustered on a tree like a swarm. I again shook them into an empty skep, and tried to get them to enter the frame-hive after flouring them; but they rose again. So I waited until sundown before uniting them, as the few that had entered the frame-hive were being attacked and driven out. Then I sprayed the bees of both lots with scented syrup, and united them, but nearly all the driven bees were killed, and though to-day is a lovely day, same as yesterday, they are still fighting. I have smoked them seven times, and sprayed the hive with carbolic acid, but this was of no avail. Thanking you in anticipation of a few words of advice, I send name and sign—One in Trouble.

Reply.—Your experience, which we are sorry to learn has been a painful one through having been badly stung, simply shows that it is risky, especially for a lady, to undertake driving bees, or indeed most practical operations with bees, without having first seen it done by an experienced man. After the various attempts you made to overcome the evident determination of the bees in the frame-hive not to accept the alien bees forced upon them, it is useless for us to advise further operations. The bees must be allowed to settle things among themselves, and no further attempts should be made to unite driven bees to the stock that has caused the trouble. For your future guidance we advise you to see a practical bee-man drive and unite bees, and you will no doubt be agreeably surprised to find how simple an operation it is.

[3811.] *Bee-keepers' Association Wanted for Ayrshire.*—I have enclosed two pieces of comb from different hives, not my own. Will you please say, through the B.B.J., if there is any sign of foul brood in them? The bees in both have dwindled away, and are now extinct. I have your "Guide Book," but being only a novice and seeing that some of the older hands laugh when foul brood is mentioned, I am determined to know when it is prevalent, and thus try to keep clear of the pest if possible.

I am surprised that a county of the standing of Ayrshire does not possess a bee-keepers' association; the talent is not lacking—of that I am sure. "Wake up," then, Ayrshire, and let us see if we cannot hold our own among the many associations. Shall be pleased to have an association schedule, with rules, &c., if you can let me have one for reference. I send name, &c., and sign—Rednaxela, Mauchline, Ayrshire.

Reply.—Both pieces of comb contain nothing worse than old pollen that has been reduced to its present powdery state by minute insects known as pollen-mites. There is no trace of brood and no disease in combs, but they are utterly worthless, and should be burnt. We will forward a

copy of the rules, &c., of one of the county associations on this side of the Border, as requested, in the course of a few days.

[3812.] *Re-queening Stocks.*—I have six stocks of bees, which up to the end of July had not done much, one only having filled a single rack of sections, the combs of which were already drawn-out. The remainder have stored well in brood-frames, however, which I shall leave for winter supply. As I doubted the age of queen in each, I killed all six of them, and nearly a month of beautiful weather followed from mid-July to mid-August. The conditions were therefore favourable for marital flight and stores ample. Four of the resultant queens are apparently laying well, but one stock shows no sign of brood and the remaining one has brood apparently regular, but eggs are being laid not on base of cell, but halfway down the sides. I therefore ask: 1. Is the latter, in view of regular patches of brood in centre of two combs, likely to be a properly-fertilised queen or a fertile worker? 2. Would each of the two stocks be likely to accept fertile queens now that the youngest bees are at least five weeks old? Your reply will oblige. Name sent for reference.—H. O. M., Whitchurch.

Reply.—1. If the brood seen is worker-brood in worker-cells you may be certain that the queen has been safely mated, and is all right. 2. The broodless stock is apparently queenless, and your best course in dealing with the bees will be to unite a small lot of driven bees headed by a young laying queen to the colony.

[3813.] *Queen Mating in September.*—I had a young queen which hatched out on August 17, and have seen her outside the hive on several occasions since that time, but up to September 17—which was the last time I examined the combs to see if there were eggs or brood in the cells—I never saw either. But on September 19 I saw the queen come out of the hive no fewer than four times within an hour. I took her in my hand three times in order to see if anything was wrong with her, and on one occasion she took flight whilst in my hand, but came straight back again. On the same day the bees were coming in heavily laden with pollen, and they are now killing off drones. In view of all this, do you think that the young queen has been fertilised? Name sent for reference.—G. L., Ryton, R.S.O.

Reply.—It is more than probable that the queen was mated on or about the day named, but if the combs are now examined it will be seen whether worker-brood is being reared in worker-cells. If this is decided one way or the other, you will know what to do by way of re-queening the stock or introducing a fertile queen.

[3814.] *Bee-parasites.*—Is this a record for bee-parasites? 1. We bought two lots of bees in skeps, and, after driving them, counted on one queen no fewer than thirty-two blind lice (*Braula cœca*), and sixteen on the other, making a total of forty-eight on the two queens. The strange part of it was that hardly a dozen could be seen on the whole of the worker-bees, apart from the queens. 2. The photo we have sent is of a swarm of bees that built out comb and stored several pounds of honey under the floor-board of a frame-hive, and lay undiscovered for several weeks. Hoping this may be of interest to your many readers. —The Southern Bee Supply Co., Sussex.

Reply.—1. Without exactly establishing a "record," we may say thirty-two Braulæ is a large number, and not often found on one queen, but it is quite common for very few of the parasites to be found on the foraging bees, while the queens are almost covered with them. 2. The photo is not suitable for reproducing by the half-tone process; besides, it appears to us as if the floorboard of the hive has been faulty in not being "tongued and grooved," as all floorboards should be, and that the bees have passed through an opening (caused by the wood shrinking) and built the combs below during the hot weather of the past summer. We have several times seen cases of this happening, and it has always arisen from the cause mentioned.

[3815.] *Wintering Bees and Bulged-out Combs.*—On closing together the brood-frames of my hive for wintering, as advised in the "Guide Book" (page 191), I found that some of the capped honey-cells bulged out on adjoining frames in patches in such a manner as to touch each other for some considerable distance. I therefore ask: 1. Will the bees be able to get at the food in these joined-together combs, if necessary? 2. If not, had I better leave the frames widely spaced, or would it do to cut the cells down until a clear bee-way is obtained, or is it too late for them to re-cap now? I judged there would be about 35 lb. to 40 lb. of stores in the hive (on nine frames) for the bees to winter on.—A. B. H., Leytonstone, October 2.

Reply.—1. You have misread the instructions for wintering as given in the "Guide Book." Instead of the frames being "closed together," as stated, the directions given are for spacing them wider apart, the object aimed at being to have more bees between the combs in winter, in order to secure greater warmth. A re-perusal of page 191 of the book in question will make this clear. 2. The bulged-out portion of the combs should be cut away before packing for winter, leaving the bees to seal the uncapped cells

or not, as they may choose. The amount of stores mentioned is more than enough to last the bees till March next.

[3816.] *Queens Killed in Autumn.*—On September 29, a fine calm morning, an experienced bee-keeper was helping me to examine my four hives to make sure of the presence of queens before packing up for winter. No. 3 was well filled below, and we had taken about six fairly well-filled sections from it on its return from the moors about three weeks ago. We found plenty of bees, but, after careful scrutiny, could discover no queen. We then examined the remaining hive, No. 4, and on passing No. 3 we found its queen lying outside the hive on the ground, evidently maimed, and a worker apparently attacking her. On picking her up my bee-keeper friend was stung by the queen. If I had lifted out the frames I might have concluded I had injured her, and she had been attacked and turned out, but with my friend's long experience he was not likely to have caused any injury. No. 2 had no queen, and I therefore introduced one to each of the two hives the same evening. I therefore ask:—1. Are bees liable to attack their queen on being disturbed at this time of year? 2. For fear of harm to the queens I have not disturbed them since, except to remove the queen-cages, which were empty; but as bees in both hives were carrying pollen in on October 4, may I conclude that they have in each accepted the queens, and that they are laying? Or does the fact of pollen being carried in merely signify that they are laying up winter food for themselves? 3. I spread a sheet in front of each of the two hives, and carefully examined it each day to see if a queen had been thrown out, but could find none. Hive No. 3, from which the maimed queen was thrown, had drones in it, and No. 4, in which we found a queen but no brood, had also drones. In both the bees were pushing their drones out but not killing them on October 4. Is it not very late for drones to be retained?—A. MEYSEY-THOMPSON, Scarcroft, Leeds.

REPLY.—1. It is not uncommon for bees to "ball" (*i.e.*, kill) their own queens owing to untimely manipulating or rough handling of the combs. This trouble is more frequent in spring than in autumn, but it occasionally happens when packing for winter. 2. If pollen is being carried in freely in the late autumn it is a fairly reliable sign that breeding is going on in the hive. 3. Yes; to see drones tolerated in hives so late as October may be generally accepted as a sign of queenlessness; but the abnormally warm weather we have experienced this month will account for many uncommon "happenings" in bee-life this year.

PRESS CUTTINGS.

BEE-KEEPING IN THE TRANSVAAL.

Considerable success has been achieved by the Transvaal Bee-keepers' Association, which has now 113 members. At a recent meeting, over which Mr. Raubenheimer presided, it was stated that a most successful depôt had been started in Johannesburg, with the result that members were not able to supply enough to cope with the demand. The agricultural and horticultural societies had allowed the association the supervision and adjudication of prizes, an action which proved the *locus standi* which the association had attained. Mr. Sworder, an expert, had been appointed, and the Government was being approached to give a grant to enable him to travel about the country to educate the farmers and their wives as to the correct method of dealing with bees and proving to them that there was money in the industry if properly handled.—*South Africa.*

The editor of the *Daily Mirror* has sent me a dainty jar of honey made by the bees who keep things humming on the *D. M.* premises in Whitefriars Street. Bees are rare in the City, though it is always alluded to as the busy hive. I know, however, of some wonderful bees who make honey in the churchyard of St. George's-in-the-East. Lord Avebury was astonished some years ago to receive a sample from the neighbourhood of Ratcliff Highway, with the motto, "Honey soit qui mal y pense."—"DAGONET," in the *Referee.*

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

C. E. M. (Essex).—*Defaulting Advertisers.*—We have no reason for doubting the *bonâ fides* of the advertiser you name, and the terms of your letter to him seem in a measure to explain the delay that followed. To "write urgently for a swarm of bees" is misleading when what is wanted is a 3s. lot of driven bees, and not to send cash with order was a mistake on your part; nor was it reasonable, we think, to expect the seller to put the queen in the queen-cage you sent, because it would mean not a little extra trouble to make everything safe for travelling. The seller is

at fault in not replying to your letter, but writing a letter is to some bee-men more trouble than driving a stock of bees, and we suppose he thought he had earned his 3s. for driving, boxing, and despatching the bees. On the whole, however, we trust the bees arrived safe at last and are now doing well.

BEGINNER (Salop).—*Judging Amount of Winter Stores.*—You may calculate the approximate weight of stores in comb better than we can from a distance by examining each frame and counting every 4 in. square of surface-space as a 1-lb. section, and if the stock has 15 lb. of sealed stores—in addition to the unsealed brood—it should be enough to carry the bees over the winter.

AMATEUR (Ardgay, N.B.). — *Removing Stores from Brood-chambers.*—If you leave six of the ten frames of a "W. B. C." hive now full of honey, and contract the bees on those six frames by dummy-boards, the other four frames of stores may be removed with advantage to both bees and yourself. On no account should the full frames taken away be replaced by empty ones.

J. E. (Ambleside).—*Suspected Loss of Queen.*—The bee sent is not a queen at all, but a worker, though a beginner might be easily deceived by the distended abdomen of the specimen, caused by its being drowned in the syrup-feeder.

H. S. (Chislehurst).—*Bees and Mineral Water Factories.*—It is a serious matter to have twenty stocks of bees located near to either a mineral water or a jam factory, there being no ready means of keeping bees from visiting such places, and if your bees are killed in such quantities as to be "swept up dead in pailfuls" you will have to choose the lesser of two evils, we fear—viz., either to protect the window of the factory where the bees enter with coarse netting, or else cart your twenty stocks of bees a couple of miles away during the few weeks when the danger arises. You cannot get legal redress from the firm.

G. R. T. (Putney, S.W.).—*Buying Driven Bees.*—If the bees were "guaranteed" as 4-lb. lots, and had "not many hours' journey in reaching" you, they should not have been reduced to 2¼ lb. in transit. We should like to hear what the seller has to say in explanation.

F. G. C. (Ludlow). — *Candy-making.*—Sample sent has not boiled long enough; it will become as hard as a stone in a short time when the moisture has dried out of it.

BEE-KEEPER (Cornwall). — *Bee-forage Plants.*—Of the two sprigs of blossom sent, No. 1 is pennyroyal (*Mentha Pulegium*), on which bees work busily in some seasons. No. 2 we cannot trace, as there are no leaves on the specimen.

BUSY B. (Wickford, Glos.). — *Clearing Mead.*—If your mead-making has always been a success, so far as regards the liquor becoming "bright and clear every season prior to this," we cannot account for its failing to clear this time, beyond saying that something has probably gone wrong during the process of fermentation. It may improve in course of a few months, if kept bunged up and in an even temperature.

QUORN HAVEN (Sussex).—*Buying Carniolan Bees.*—The dealer you name has not advertised in our pages for some time past. You had better write him again, asking for his prices in English. He can send these if necessary.

WEST YORKS BEE-KEEPER (Silsden).—*Young Bees Cast Out.*—The trouble of which you complain has been very prevalent of late, and it is difficult to account for it, beyond saying that in most cases it arises from the bad autumn of last year and the untoward weather during the early summer of the present season. This has caused severe losses, and we are hoping that the good honey season of 1908 will restore bees to their normal condition of vigour and good health.

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WELSH DRONE (Berriew, R.S.O.).—There is nothing in comb sent but hard, useless pollen; no trace of brood at all. As the stock has been weak all through the season of 1908, it is well you have destroyed the bees, as they would be quite useless.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

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EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR

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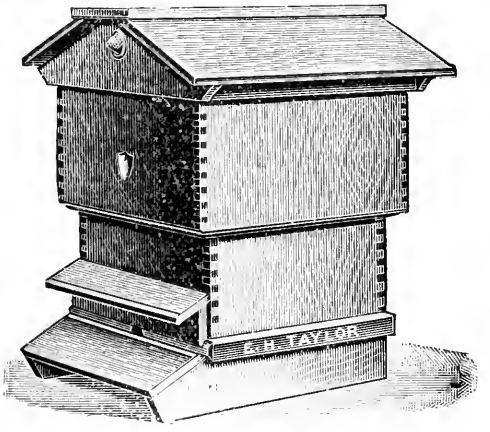

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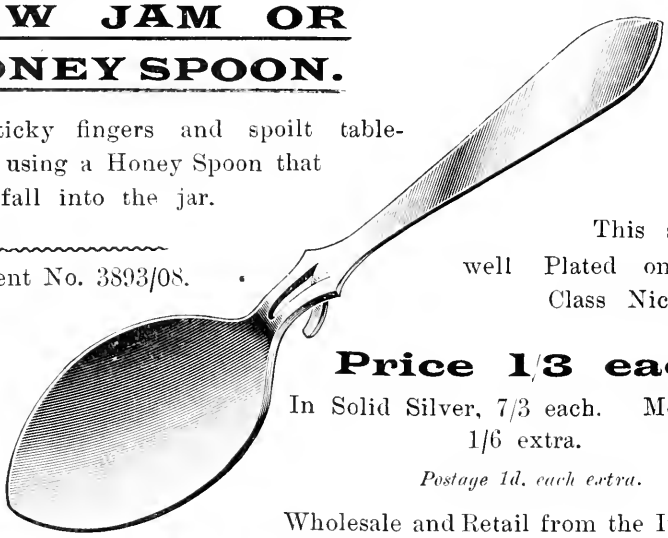

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BEE JOURNAL & RECORD OFFICE, 8, Henrietta St., Covent Garden, W.C.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held on Thursday, the 8th inst., in the board-room of the R.S.P.C.A., Jermyn Street, S.W., a report of which will appear next week.

CONVERSAZIONE.

On the conclusion of the Council meeting, a short adjournment was made for light refreshments, the members assembling at five o'clock for the usual conversazione, over which Mr. Thos. W. Cowan presided.

Among those present were General Sir Stanley Edwardes, Colonel H. J. O. Walker, Misses E. Scott-Walker, Carr, M. Dow, W. Kemp, Mrs. E. Chapman, Mrs. L. G. Hamilton, Mr. and Mrs. L. S. Crawshaw, Mr. and Mrs. E. C. Ford, Mr. and Mrs. Geo. Hayes, Mr. and Mrs. J. C. Mason, Mr. and Mrs. J. Pearman, Messrs. S. S. Abbott, W. F. Abbott, G. R. Alder, S. Atkin, W. Boxwell, L. Belsham, T. Bevan, B. E. Buckwell, Thos. W. Cowan, C. W. Curling, G. Dow, D. H. Durrant, E. W. Eales, W. Emerton, L. Goffin, W. Gee, H. Hills, W. Herrod, W. V. Hatch, J. W. S. Jefferies, G. W. Judge, J. B. Lamb, G. H. Lander, A. G. Pugh, J. Price, A. E. Paul, W. F. Reid, G. Richings, W. Scott-Walker, J. Smallwood, H. H. Smart, W. Sole, E. Seadon, A. W. Salmon, G. H. Skevington, J. N. Tinsley, E. H. Taylor, T. W. White, T. E. Whitelaw, E. Walker, and E. H. Young.

Mr. Cowan, in opening the proceedings, stated that a request had been made to him that the order of subjects on the agenda might be varied, so as to allow item No. 3, "Selling Honey," to be discussed first. He presumed there would be no objection to this, and, in response to a unanimous expression of approval, he called on Mr. W. Herrod to introduce that subject.

Mr. Herrod said he believed most persons finding themselves in his position commenced with an apology on some ground or other, and his case would be no exception to the rule. When he told them that until his entrance into the room at five o'clock he had no idea of undertaking the task now assigned to him, he was sure the meeting would pardon any shortcomings that might arise out of the impossibility to devote adequate thought and preparation to his theme. In dealing with the matter of selling honey, the first idea that presented itself to him must relate to the packing of honey, which perhaps involved one of the greatest failings of bee-keepers. He felt justified in saying that he doubted if 1 per cent. of bee-keepers knew how to pack their honey properly for transit. One great reason why it was difficult to sell honey was because, even when destined for the show-bench, some of the old hands were not careful enough in the packing and preparing of it. He remembered once seeing a consignment of honey sent to a dairyman whom he knew. He could not remember how many dozen sections were forwarded, but very few remained whole when they arrived. They were simply sent in the section-racks wrapped up in brown paper, and forwarded by the London, Chatham, and Dover Railway. Of course, no more orders would follow such carelessness as that. There was no doubt great care must be exercised in packing if customers were to be retained, as no one would tolerate consignments of honey which arrived in bad condition. When preparing sections for travelling only those should be selected in which the comb was attached on all four sides, for if sections attached only on three sides were sent away the results must be disastrous. Therefore this point could not be too much accentuated: that the comb should be well fastened to the woodwork on all four sides if it was to reach the purchaser in a sound condition. Then there was the question of receptacles in which to pack the honey, the complaint being that these were rather expensive. But a Tate's sugar-box made a very useful receptacle for packing honey, and practically cost nothing. If No. 1 size were used (being slightly wider than No. 2), it would be found that four dozen sections could be comfortably put into it; he had crammed in as many as six dozen. They should be carefully laid in half-dozens or fives, and not allowed to be loose, but be packed in layer after layer as tightly as possible. Before putting the sections in the box 5 in. or 6in. of straw (not hay) should be put at the bottom to give the required resistance. Another point was that many bee-keepers sent their honey to purchasers simply haphazard, and never thought of grading it. There should always be two grades—the very best and seconds, or any other name might be given to indicate the distinction. A good price could thus be obtained for well-chosen sections. As an instance, he had himself sold five dozen this year at 15s. per dozen wholesale. Of course, that was exceptional, but by carefully grading a bee-keeper could always realise from 8s. to 10s. per dozen for sections, and his prices would make a better average than by just putting all of them on the market without discrimination. Those that were short in weight should not be marketed, as, in his opinion, it was bad policy to sell them even at a cheap rate. He knew sections were sold for 10½d. each in London, but he was persuaded that if they could be

examined most of them would be found to weigh only ¾ lb. The result of lowering the price was that the dealer who bought them would never expect to pay more, even for the full weight, as if sections at 7s., 8s., and 10s. were offered him he would naturally want to make as much as he could, and therefore would choose the first price, which it would be difficult, if not impossible, to increase afterwards. The best course in the case of short-weight sections was to extract the honey and keep the comb over. They were useful, if it were only for baits to attract bees into supers. He had ample experience of this. Then there was the matter of the cleaning of sections, which a good many bee-keepers neglected. It was a common occurrence to slip them into the box without the propolis having been cleaned off at all. This charge, of course, did not apply to some bee-keepers, who were most particular in regard to cleaning—in fact, he believed that one bee-man used sandpaper to make his sections appear so clean; but unfortunately the majority neglected this necessary part of the work of preparing sections for market. Again, as far as possible, the sections should be glazed when offered for sale, and, for his own part, he had refused to sell sections, especially to grocers, that were not so prepared. When unglazed ones were sold it was a common incident for shop assistants, who did not know how to handle them properly, to take them up by the narrow way, and accidentally slip a finger in one side and the thumb in the other. After that the honey naturally began to leak, and when placed in a grocer's window became an attraction for wasps and flies, and an anything but pleasant sight to would-be buyers. The combs collected dirt and dust, and were consequently a centre of unhealthiness, while finally the grocer in turn grew disgusted with the whole thing. Therefore on every ground it was better to always send out sections glazed.

With regard to extracted honey, the majority of bee-keepers at the end of the season extracted the whole crop indiscriminately without the least thought of grading, which could be done quite easily when the honey was in the comb by separating the light, medium, and dark before extracting. If the whole was bulked it might make a medium honey, whereas if properly graded two-thirds of it would probably have been first-class, and it was well known that better prices would be realised for light honey than for medium or dark. They must also be careful to avoid letting in any honey-dew. If even a very small quantity found its way into the honey the latter became of a dull and dirty colour, while so great was the injurious effect of honey-dew that he believed 1 lb. or 2 lb. of it would spoil a hundredweight of honey. He had not experimented in this direction himself, but probably Mr. Cowan could give them some information as to how small a quantity would spoil a given weight of honey.

Another important point for honey-producers was never to sell dark honey for table use. It should always be disposed of for medical purposes, for making confections, or different foods; but place it on the table and very few would care to take it, while if presented in the form of biscuits or cakes, where the colour cannot be seen, the objection disappears. Another point was that honey should be ripe before bottling. If care was not taken in this respect it would be found that on opening the bottle the top was covered with a very thin honey which refused to granulate. After extracting, the honey should be strained through muslin, and, in order to clear it, should be placed in a ripener or large tin, in the bottom of which a hole could be punched, so that the honey may be drawn from the bottom. If any was unripe it would speedily come to the top, together with the scum caused by air getting into it when extracting and running off. When bottling, in order to make it granulate properly, it was desirable to hold the bottle so that the honey ran in on the side—in fact, just in the same way that bottled beer was poured into a glass. By this method it would be found to granulate much more evenly and smoothly. When honey was removed from the hive, if there were a number of cells unsealed it would be advisable to put the combs through the extractor before uncapping, and there would then be no trouble about fermentation. Another point to which he would like to refer was the ill-advised custom of bee-keepers to ask the same price for honey whether sold in small quantities or in bulk. In the latter case they ought to be prepared to accept less money. He had been wanting to buy honey this year, but in many cases could not come to terms owing to obstinacy in this respect. Many bee-keepers, if asked the price of 28 lb. or 2 tons, would quote 8d. per lb. all round, while obviously there was less trouble proportionately in preparing the larger amount, and the cost should be decreased accordingly. It would be a good plan to send out honey on sale or return, although, of course, with a new customer of whom the bee-keeper knew nothing care would have to be exercised, but he believed this mode of doing business would be found to work satisfactorily on the whole. Then another consideration was that one must be willing to put up the honey in any kind of receptacle desired; by this he meant that the taste of the public in this respect should be ascer-

tained and gratified. Some grocers liked to sell honey in a porcelain pot, or perhaps a globe-shaped bottle or a cream-mug, or even a tumbler which might be used afterwards as a drinking-glass, which fact perhaps helped in the sale. He had known bee-keepers refuse to put up their honey in any but the orthodox way merely because it was contrary to what they had been in the habit of doing; but why not conform to the buyer's wishes? One more point which had evoked considerable discussion and criticism in the past. It was, he believed, a good plan when dealing in honey to have a brand such as the county associations had in effect in their labels. It was well known that many people made a point of asking for a particular brand that had pleased them, or one which they were accustomed to. In their apiary at Luton he and his partner had adopted a label, and had also given a brand to the honey. As a result, they had been told by their customers that people came again and again for this particular brand. This was a fact worth bearing in mind by all those dealing with honey for sale purposes. Mr. Herrod concluded by saying that he had endeavoured to express a few stray thoughts on the subject of selling honey without any attempt at arrangement, but he hoped that his remarks would be sufficient to promote a useful discussion.

Mr. Skevington asked how many bottles had been broken among the exhibits at the Dairy Show through bad packing.

Mr. Herrod replied that not a single bottle had arrived broken at the Dairy Show, but quite a number of unglazed sections had reached the show, of which several (he could not say how many) were broken. At the Grocers' and Confectioners' Exhibitions the authorities had insisted this year on all exhibits being sent in proper boxes, and he had no doubt whatever that this was the cause of exhibits arriving in good condition; while another good result from the enforcement of this rule was that the work of the stewards was considerably reduced. He also noticed the good effect at the Dairy Show, as exhibitors, being compelled to get proper boxes for the former shows, would use them for all other shows at which they exhibited. Five tons of extracted honey were staged at the three shows in question, which showed that a little care in regard to proper packing had borne good fruit. His remarks that evening applied more particularly to the transit of honey between bee-keepers and grocers and dealers than to prices, &c., which depended entirely upon the business capacity of the former, some being able to clear both their own and other bee-keepers' produce, while others could not even sell the gatherings of their own bees. What he wanted to emphasise most particularly was that so much depended on packing, grading, and cleanliness, and if all these things were attended to selling was a comparatively easy matter.

(Report continued next week.)

"THE IDEAL HOME" EXHIBITION.

An interesting exhibition was opened at Olympia on Friday, the 9th inst., by the Lord Mayor of London. It was organised by the *Daily Mail*, who have managed to bring together a big display intended to illustrate the various aspects of "the ideal home." Everything necessary for the home is here shown, and on the ground floor, besides furniture, electric fittings, gas-lighting, ventilation, tools, &c., there is an annexe, which is devoted to gardening. The gardens are tastefully laid out, and several firms are showing flowers, fruit, and shrubs, as well as appliances. Bees and hives are also shown, and Messrs. Abbott Bros. are exhibiting the frame-hive occupied by the *Daily Mirror* bees, also samples of honey collected by these bees in the heart of London. They also show a novel manipulating table, which folds of itself when put in a certain position. The Studley College, for training ladies in gardening, illustrates some phases of its course, which includes bee-keeping, and an observatory-hive with bees is there shown. The exhibition is well worth a visit, and is to remain open until October 24.

SUFFOLK BEE-KEEPERS' ASSOCIATION.

A committee meeting of the Suffolk Bee-keepers' Association was held on October 7 at Bury St. Edmunds, when the secretary reported that the work of the association had progressed very satisfactorily, many new members having been secured through demonstrations and lectures given under the Education Committee, and by the help of members advising bee-keepers to join the association. The season for bee-keepers had proved most satisfactory. Large quantities of honey of excellent quality had been obtained, and the work of suppressing the terrible disease foul brood had benefited the bee-keepers very considerably. Healthy stocks in many cases produced from 100 lb. to 200 lb. of honey per hive. The association honey label has been used advantageously in the sale of members' honey. Prizes given in the Apiary Competition had stimulated members to keep their bees in better condition. Prizes given for section and extracted honey have caused keen competition, and the

excellence of quality has enabled producers to sell honey readily. Bee-keepers who are not members of the Suffolk B.K.A. should take advantage of the chance and write to the secretary, Mr. A. W. Salmon, Cashfield House, Chingford.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of September, 1908, was £1,781.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

AMONG THE BEES.

"ONLY TRIFLES."

[7240.] The good old Latin proverb tells us that water constantly dripping wears away even so hard a substance as stone. A little crack in a hive-roof two winters ago, so insignificantly small as to be scarcely perceptible, had been overlooked last year, although considerably enlarged, and the wet percolating through, slowly but surely, saturated the coverings to such an extent that, after alternately freezing and thawing, the colony had been ruined: all through a trifle!

An imperfectly-fitting cone allowed an opening just a quarter of an inch, by which robbers secured an entrance to the three crates being cleared of bees, and, the owners not being at hand, sixty-three well-filled and well-finished sections were left dry and empty combs. A single small tack, driven home by one slight stroke of a hammer, would have saved all the loss and consequent demoralisation in the apiary; but such a trifle was beneath their owner's notice. So destruction and chaos followed. A bee-keeper shaking down sections to clear them of bees saw one bee—uncommonly like a queen, he fancied—crushed beneath his foot. Apparently he thought one bee out of so many thousands could well be spared—such a trifling loss could easily be made good by such an army of workers, oblivious of the fact that the season was on the wane, good weather a thing of the past, and that drones had been massacred; so there followed in spring the natural sequence: the complete extinction of that array of, it might be, 50,000 worker-bees.

A careless bee-keeper *thought* he saw a crack in one of his bottles while packing up a consignment of extracted honey, but gave it no further consideration. What was one bottle amongst a gross? Yet that weak point proved the ruin of the whole order. The cracked bottle, yielding to pressure, gave way. Its neighbours, knocked about by the concussion, mutually smashed each other, and one can guess the value of the consignment on its arrival at its destination.

The authorities of a certain show (somehow) returned an exhibit with the box turned upside down. Consequently, bottles leaked the whole period of the homeward journey. The percolation, if slight, was steady, so that on arrival the owner found he had a box and a dozen empty bottles. Only that and nothing more. He blamed the show authorities; they insisted he was the culprit, as he had placed the return address-card on the *bottom* of his box, which thus became the top.

In my earliest experience I once hived a swarm from a loose, irregular cluster on a raspberry stake. Being a very windy day, bees flew about considerably, and the swarm made a great commotion. As it came on a downpour of rain, I was glad to throw the bees out of the skep anyhow into a hive from over frames. An extraordinary agitation all round the hive made manifest even to my novice mind that someone had blundered. That something was only a *trifle*. I remembered that near the root of the raspberry canes I had left a small bunch of bees, but with them was the queen. That was the secret of the undue excitement, and it cost me the loss of that swarm.

Behold what a great fire a little spark kindleth! A good few years ago an Australian, acting on the "get-rich-quickly" principle I suppose, bought a large quantity of honey, which, for some mysterious reason, he tinctured with oil of eucalyptus (so it is said), and from that moment he ruined the reputation (see page 385) of Australian honey. "The mere fact of the past lives in the memory of the present, and so European countries act on the impression that all honey coming from that continent has a taste of eucalyptus oil."

A little immature honey, new gathered and unripened nectar, has been extracted

with a large quantity of ripe and matured honey. The quantity was small and not worth consideration—only a trifle, but there was enough of it to set up fermentation. A little leaven leaveneth the whole lump, and so the honey is deteriorated to such an extent that the barrel containing the cask and contents are "blown to smithereens." The loss of the honey is not the worst of it, because such sour and nauseating stuff gives many a lover of good honey a distaste for the sweet which he never forgets.

Fresh in our memory is that little incident of honey being offered in London claiming to be heather, and yet advertised at 3½d. per lb. The fact that it never made acquaintance with our soil until it was landed at some shipping wharf from some foreign country, and that it had not about it one single feature common, less or more, to all heather honey, appeared such a trifle to the importers that they unblushingly labelled it "genuine Scotch heather honey." The other day I had just such a sample sent me.

But I must pull up. I am wandering from my subject, as all the three last paragraphs have a foreign smack about them, while the subject is a home one and concerning us very nearly. Take the question of syrup, lately engaging the attention of many of us. Let it be too thick, and it yields bees an imperfect food; too thin, and it almost certainly breeds dysentery; under-done, and it almost inevitably sours; over-done, and it may be burnt and form a poisonous food; given too late or fed out of season, they fail to mature it and leave it unsealed, to deteriorate and become a danger. Each and all of these may be trifles, but they tend towards imperfection. During September and early October what small beginnings would lead on to a robbing boom. One or two bees prowling about discover some hidden and illegal sweets, immediately whisper the secret to their companions, and forthwith, unless prevented by simple means, they raise a furore which it is almost impossible to still.

Too many bee-keepers take the fertility of their queens for granted when winter-packing. The difference may appear trifling, but it means success or failure with that stock in the coming season. Placing starters instead of full sheets in established stocks supplies us with undesirable drones instead of active workers. Carelessly fixing starters or full sheets in frames generally produces the same drawback. I could go on indefinitely multiplying instances where trifles mean profit or loss, according as they are attended to or neglected. Trifles often lead to perfection; neglect of trifles often means disaster.—D. M. M., Banff.

SILICATE COTTON QUILTS.

[7241.] I am sending by this post a sample of a material with which you may be familiar, viz., "silicate cotton," better known as "slag wool." Having come in contact with this substance as a non-conducting material for boilers and steam-pipes, and knowing how very effective it is, I thought it would be most suitable as a winter quilt for the bees. The dust from it is of rather a gritty nature, and the method I intend to employ is to procure four slabs from the manufacturers—17 in. by 17 in.—and place one of these over the ordinary quilt in each hive in a shallow box 1½ in. in depth, perforated at the bottom, and with a piece of calico beneath the slag wool.

I should very much like to exhibit this arrangement at some of the shows next year, as I think the use of silicate cotton for this purpose is quite a novelty; but if it has any advantages over the winter quilts at present in use, it is a pity not to let my fellow-craftsmen have the benefit of the "tip." At any rate, I hope some of our experts will make the trial and let us know how it succeeds. Messrs. Frederick Jones and Co., Perren Street, Kentish Town, London, N.W., are the manufacturers, and the cost is about 4½d. per square foot 1 in. in thickness. In my opinion, the advantages to be gained by the use of such quilts are: 1. Very high non-conductivity. 2. Rot-proof. 3. Absolutely unattacked by vermin (will not harbour moths, earwigs, or woodlice). 4. Being porous, will allow of a certain amount of ventilation. Hoping to have an editorial opinion on its suitability.—Charles E. Wood, Acomb, York, October 8.

[We know the silicate cotton, and have no doubt it will answer the purpose, and would have an advantage over the ordinary felt in not being attacked by vermin or moths. A calico quilt should go over the frames, otherwise the bees will pull the cotton out.—Eds.]

BEE-FLOWERS AND GRANULATION OF HONEY.

[7242.] With reference to the letter of Mrs. M. Spencer in B.B.J. for October 1 (7229, page 395) about bee-flowers, I may say that my experience is just the opposite of hers. I have seen frequently as many as three or four honey-bees at work on one single head of the sunflower, and that they were gathering not only pollen but also honey is manifest from the fact that they were constantly inserting their probosces into the little tubes of which that flower is composed.

A few days ago an educated gentleman brought before me this objection, that honey

when it granulates undergoes a chemical change which makes it lose all its properties as honey, and reduces it to the state of a mere sugar. I was not of his opinion, but thought I would refer the matter to you. Do you think, therefore, that there is any foundation for such an objection? An answer in the B.B.J. will oblige.—MELISSA, Devon, October 8.

[Honey consists of dextrose and levulose in equal proportions. All honeys granulate more or less readily, and the result is that the dextrose crystallises first into a compact mass, leaving the less readily crystallisable levulose for a time in solution. It is this levulose that keeps granulated honey from becoming solid and hard. At a later stage the levulose also partially crystallises, but the two sugars, although in combination, are only mechanically separated during crystallisation. There is no chemical change, because both the sugars are present in equal quantities, and when the sample is reduced to a liquid condition by heating at a temperature not exceeding 160 deg. Fahr. the dextrose and levulose again combine. For analysis care is always taken to melt granulated honey and to thoroughly mix it. Samples taken from the liquid surface and from the crystalline bottom layer of partially granulated honey would show the greatest difference in composition, the latter being dextrose, while the liquid portion would be nearly all levulose. If, however, honey is heated to 180 deg. Fahr. decomposition of the sugars takes place, and the chemical composition of honey is changed by such injudicious treatment. New honey may also contain a small proportion of sucrose, not exceeding 8 per cent., which is changed to dextrose by the enzymes in the honey after it has stood for a time. Repeated granulation and liquefaction year after year will in course of time change the appearance and also the chemical composition of honey.—EDS.]

DANGER OF FOUL BROOD.

[7243.] When are we to have a Foul Brood Act for England? I will give you a case in point, which shows the need of such an Act. A few evenings ago, on going into my garden, I saw that four of my hives were robbing, so I watched their direction and followed them about 100 yards to a neighbour's garden, when I found several frames out in the open covered with bees, and they were infected with foul brood of a very bad type. As my neighbour has kept bees for years, there is no excuse for this negligence, so I called at his house and told him it was a shame that he should leave the frames about in such a manner. He answered that the disease was not very bad, but, after I pointed it out to him, he said he had it more or less in all his hives. Now, Sir, I am obliged to destroy four or five lots every spring, and is it to be wondered at, with men like this about? I do not play with them, but burn the lot. I have about twenty-four frame-hives and do very well. I took off about 8 cwt. of honey this season, and left more than a winter's supply for the bees. So you see what a serious matter the above is to me. What is the best thing to do? I gave several swarms this season to a neighbour who lost his through the pest, and helped him to thoroughly disinfect his hives. I enclose my name, and take the B.B.J. every week. Any advice you can give will be thankfully received by—ONE IN DESPAIR, September 23.

[There are many bee-keepers just in the same position, and it is difficult to know what to do with neighbours who are so careless. The best way is to endeavour to teach them the contagious nature of the disease, and induce them to take measures for getting rid of it. On your part, you should give your bees medicated syrup when you are feeding them, and keep a disinfectant always in the hive as a preventive measure. When bee-keepers in this country are agreed as to the necessity of a Foul Brood Act, and combine to show the Government that they wish for such an Act, no doubt it would be passed. In the meantime bee-keepers in this country should watch the effect of the Act in Ireland, and note how it is worked, and whether it affords the desired relief and stops the spread of foul brood. —EDS.]

BEE-NOTES FROM DERBYSHIRE.

[7244.] I think "G. L., Ryton" (3813, page 408), has had a similar experience to myself with late queen-mating. I had one mated on September 19 which was hatched in the second week in August, and during the intervening time we never had a queen-mating day. I also had two young queens on the morning of September 19 in different hives, and, having given up all hope of getting either mated this year, I killed one on the morning that the other was mated—rather an aggravating circumstance, as I had kept them both so long. I intended to destroy the other queen in the evening, thinking it impossible to get her mated so late in the year, but luckily I saw she had laid about twenty eggs, so her life was spared. I have been looking to-day (three weeks later), and found about twenty young bees hatched out and two patches of brood as big as my hand. It was only a four-frame lot, but I am going to see how they get on next season.

It has not been a very good honey year in this district. I only took 50 lb. of clover from ten hives; but they did a little better on the moors, as I got over 60 lb. from six hives, and left quite enough stores for winter. Strange to say, bees five miles away from here have done just as well as ours have done badly, so I hope it will be our turn next year.

I have been visited by a bee-catching bird, which was taking my bees at the rate of two or three a minute just when the clover honey was coming in, and feeding three young ones with them. I caught the bird at last with some birdlime, and on dissecting it found it was crammed with bees, and it had been around the apiary for two or three weeks before I noticed it. One or two hives were almost cleared out of bees, but I am glad to say she did not teach her family the trick, as the young ones come hopping about, but I never see them touch a bee.—Tom Sleight, Rose Farm Apiary, Danesmoor.

BEE-FLOWERS.

[7245.] I have had about sixty letters on this flower matter. I am surprised that so much interest is shown. It is also a proof that the bee-keeping industry is surely on the increase. I have had letters from Ireland, Scotland (north and south and Edinburgh), and from most counties in England.—Mary Spencer, St. Oswald's Apiary, St. Ives, October 9.

Bee Shows to Come.

October 21 to 24, at Waverley Market, Edinburgh.—Honey show in connection with the Twelfth Annual Edinburgh and Midlothian Industrial Exhibition. **Entries closed.**

October 22 and 23, at Kilmarnock, N.B.—Honey Show in connection with the annual exhibition of the Ayrshire Agricultural Society. **Entries Closed.**

Queries and Replies.

[3817.] *Destroying Wax-moth Larvæ.*—On looking into a number of brood-comb frames, which were not in use this season, I found them more or less overrun with wax-moth eggs and larvæ. Can you recommend anything for the destruction of the latter without doing much injury to the combs?—Dyce, Aberdeenshire.

Reply.—Wax-moth larvæ can be destroyed by fumigating the combs with burning sulphur. Place an empty hive on the ground and above it a hive containing the combs. Close up so that the fumes cannot escape. Introduce a tin dish containing burning flowers of sulphur, and place on the ground. Take care that the flame does not reach the combs, otherwise they would soon catch fire. If the larvæ have been tunnelling near the midrib, scrape away the comb, get out the webs, and the bees will repair the combs. If the midrib is damaged, the best way is to melt the combs, as it gives the bees too much work to repair the damage.

[3818.] *Assistance Required.*—I should be very grateful if you could advise me. I have four hives, and for the last five years have been fairly successful with my bee-keeping. Though I have superintended them myself, most of the actual work was done by my gardener. He left me last Christmas, and his successor knows nothing about bees. Unfortunately, I have been away nearly the whole summer, and am going away next week. In May I put supers on all four hives, and they have never been taken off yet! 1. Living near a big town, I know no other bee-keepers who would help me. Do you know of anybody living near here (I am close to the Cheshire boundary) who would put the hives in order for me for the winter, and teach my gardener what is necessary? 2. I am finding the affair so difficult that I would willingly sell the hives and the bees and the complete set of appliances (extractor, &c.) if I could find a purchaser.

I am really interested in bee-keeping, but find I have neither the leisure nor the strength to manage the hives by myself. Your paper has always been of the greatest assistance to me. Hoping you can help me now.—A. L., Manchester, October 7.

Reply.—1. For assistance in preparing hives for wintering and instructing your gardener in the management of bees you should apply to the secretary of the Lancashire Bee-keepers' Association, Mr. J. N. Bold, Almonds Green, West Derby, Liverpool, who would arrange for the expert to visit you. 2. You would probably find a purchaser by advertising, should you find it necessary to give up your bees.

MR. R. BUEHNE ON BEE-PARALYSIS.

[Readers who had the pleasure of meeting Mr. Buehne during his recent visit to this country for the Franco-British Congress of Bee-keepers will be especially interested in the following extract from an interview with him which appeared in a recent number of *Gleanings*.]

"How do the climatic conditions of Tooborac, Victoria, differ from those in Germany, Mr. Buehne?"

"Those in Germany are much the same as in the Eastern States of this country. My present locality is similar to that of Southern California. It is similar to California in climate, if not in flora."

"What race or strain of bees do you find gives the best results?"

"The darker strains of Italians."

"Why do you prefer them?"

"Because of their greater immunity from bee-paralysis.'

"Do you find the yellow Italians as free from that disease as the darker strains?"

"No, decidedly not."

"Do you find that your strains of Italians resist foul brood better than black bees?"

"I do. On one occasion five cases of foul brood occurred in an apiary of 200 colonies, and four out of those five were in colonies of black bees, of which there were only five in the whole apiary."

"Do you find that bee-paralysis is more prevalent in some parts of Australia than others?"

"Yes, that is generally acknowledged by our bee-keepers."

"What constitutes the difference in these localities?"

"The dry inland districts are favourable to the development of paralysis, while in the cooler coast regions it is almost unknown."

"Did you ever attempt to introduce any other strain in your locality to improve your bees?"

"Yes. On many occasions I found that, with new blood, came a predisposition to bee-paralysis. On one occasion I bred over ninety queens from two specially yellow breeders, and introduced them with the view of improving my own strain. The result was that both breeders, with all their bees, succumbed to paralysis the following spring, and every one of the colonies of their queen progeny was more or less affected—so much so that I re-queened the whole of them as fast as I could from queens of my own original strain, keeping them going with brood of the same in the meantime. I thus lost the entire season in keeping up my colonies."

"How much did that loss amount to?"

"At least $500."

"In a general way, do you find the extra-yellow strains as hardy as your ordinary regular leather-coloured stock?"

"No. They are much more influenced by changes of temperature, being easily chilled in cold weather."

"Are the yellow strains used very much in localities on the coast?"

"No. The yellow bees are kept principally by beginners."

"What cure, if any, have you for bee-paralysis?"

"The only cure I know of is to re-queen with a different strain. A temporary cure may be effected by feeding honey without any drugs."

"Why do you say without any drugs?"

"I have on several occasions eliminated the disease for the time being by feeding thin honey continuously for several months."

"Why do you feed *honey* rather than sugar syrup?"

"Because I am of the opinion that the digestive organs being affected by paralysis, sugar which would have to be inverted would tax the digestion more than honey that is already inverted, or partially digested."

"Do you find that some individual colonies are immune to the disease, even when surrounded by other infected colonies?"

"Yes, I do; and it is such that I choose to breed from, with the view of creating a strain of bees immune to paralysis."

"Can you put combs from colonies affected with bee-paralysis into healthy ones without carrying the disease?"

"Yes; in fact, it is a practice with me to put combs purposely from the infected colonies into such colonies as I esteem are immune, for the purpose of testing their assumed immunity."

"Will combs from such affected colonies carry the disease to colonies that are not hardy or immune?"

"I do not think so."

"What does carry disease from colony to colony?"

"Assuming paralysis to be a germ disease, once a locality has been infected, germs would be present everywhere, but would cause an outbreak only among bees possessing a predisposed constitutional weakness."

"If you were starting anew, would you begin with stock from a locality where bee-paralysis was unknown?"

"No. I should prefer stock from an apiary from which it has been bred out by selection, as I have explained."

"Can you recall instances bearing on this point?"

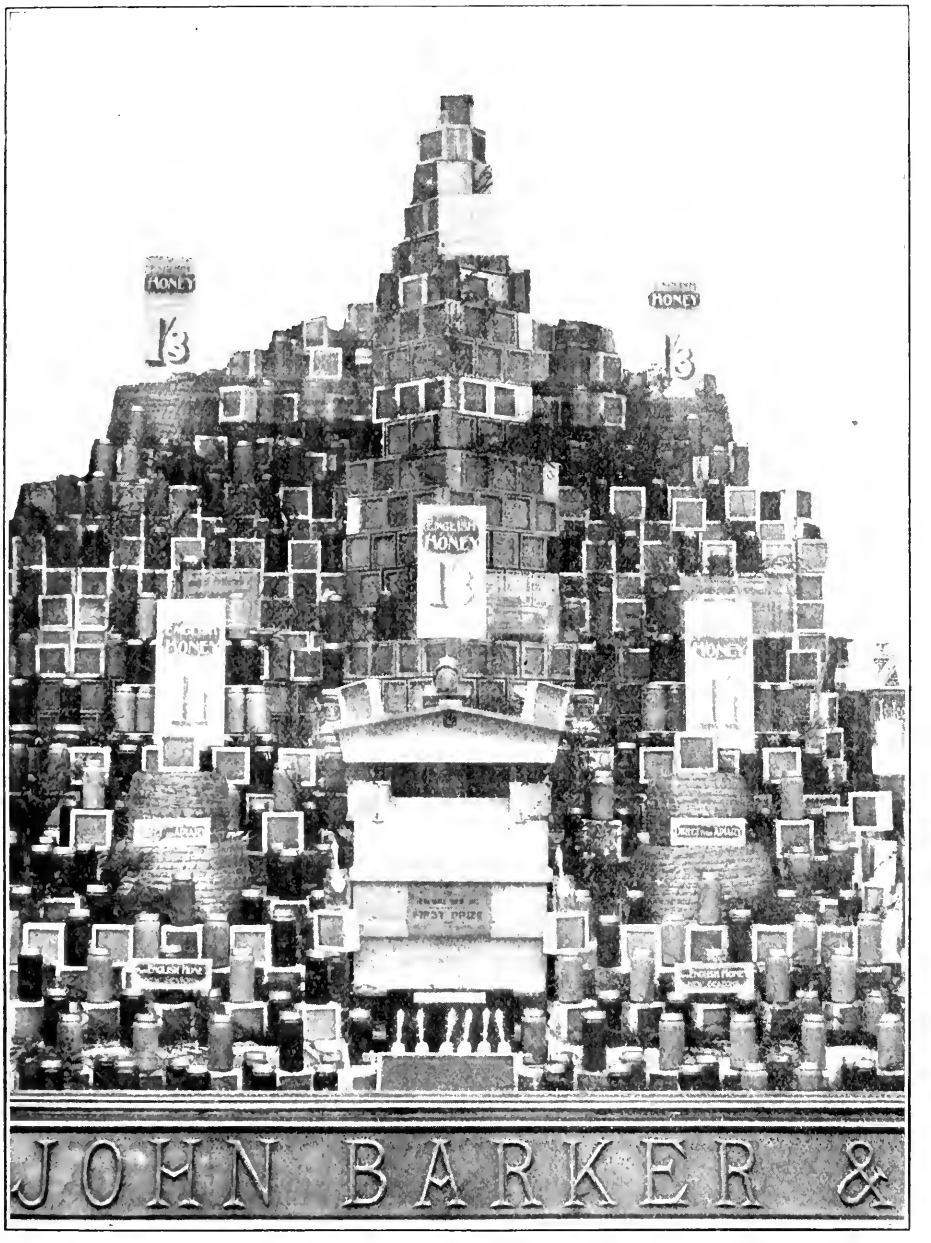
"Yes. Fifty colonies which were sent to me from an apiary quite free from paralysis developed this disease in a most virulent form within a few days after being placed in my apiary, my own colonies showing no sign of paralysis, even when the new arrivals had become almost extinct."—*Gleanings in Bee-Culture.*

CREATING A MARKET FOR GENUINE BRITISH HONEY.

One of the largest displays of English honey ever exhibited in a shop window may now be seen at Messrs. John Barker's, Ltd., of Kensington. Honey has increased greatly in popularity just lately, and this enterprising firm have not been behindhand in giving the public what they want. The window shown in picture contains over 1,000 packages of English honey, valued at £250, as well as a *Daily Mirror* "W. B. C." hive, smokers, patent

honey-spoons, &c., and is very tastefully decorated with heather, a flower one seldom sees in High Street, Kensington.

When we first heard of this display and about London honey-selling. The value of the English honey in stock in this department at a modest computation would be between £700 and £800.



HONEY DISPLAY IN LONDON SHOP-WINDOW.

the great value of the honey on show, we thought the account exaggerated, but on making personal inquiries we learnt from Mr. Ibbetson, the manager of the department in which the honey is shown, some very interesting and surprising facts

Londoners, it seems, prefer sections to any other form of honey, and the window display, as will be seen in the photograph, is largely composed of them. Most of the honey comes from Cambridgeshire, and heather and the darker

honeys do not sell so well as the lighter varieties.

"I expect to sell £1,000 worth this year," said the manager, "and every bit of it will be British: my customers will not have foreign honey at any price."

Another very gratifying fact is the prices that this honey fetches. Bee-keepers are apt to hold adverse opinions regarding the larger stores, as always trying to cut down the price of honey, but Messrs. Barker sell hundreds of sections at 1s. 3d. each, and although they catalogue a cheaper variety at 10½d. each, it has not nearly so large a sale as that at 1s. 3d.

This is one of the most noteworthy honey-displays ever seen in this country, as will be seen by the photograph, which we think is sure to interest our readers.

The special honey-list Messrs. Barker are publishing is also most interesting, and can be had on application.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

A. H. Smith (Bristol).—*Sweet-sugar for Bee-food.*—Sweet-sugar, although pure, is not suited for bee-food, as it is not a complete food and lacks the fruit-sugar which honey contains.

G. B. H. (Garforth, Leeds).—*Experts' Certificates.*—Application for syllabus should be made to Mr. Edwin H. Young, Secretary of the B.B.K.A., 12, Hanover Square, London.

Nabob (N. Wales).—*Re-queening.*—If great care is taken in the introduction, you may safely re-queen your stock, especially as the present autumn is so favourable as regards weather; but no time should be lost, as every day's delay lessens the chances of success.

Anxious (North Finchley), J. C., and others.—*Using the Deposit System.*—Persons using the Deposit System should first make themselves thoroughly acquainted with the rules, which were designed to protect buyer and seller alike. Goods should be examined on arrival, and instructions to pay the deposit ought not to be sent until this has been done, in order that the buyer may be perfectly satisfied as to their quality and condition before authorising us to send the money.

Constant Reader (Norfolk).—*Wintering Bees in Nucleus-hives.*—If all the five frames are well covered with bees, and the nucleus-hive is carefully packed for winter, there is no reason why they should not come safely through.

J. J. (Four Oaks).—*Ravages of Wax-moth.*—Bees have evidently deserted the hive owing to the combs being infested with wax-moth (*Galleria cereana*). There were several larvæ among the débris from the comb sent, which was misshapen and quite unfit for use.

Miss M. E. (London, S.E.).—*Experts' Certificates.*—The mere fact of your being only a beginner in bee-keeping makes it certain that you could not obtain as yet the third-class certificate of the B.B.K.A., which is only given to those who have a good knowledge of practical bee-work in all its branches. The "British Bee-keepers' Guide Book" will give you all the information you require.

Honey Samples.

Kingswood (Herne Hill).—Sample is very good clover honey.

F. W. G. (Dulwich).—The sample of light honey is from clover; the dark one has been gathered mainly from the limes, and is not nearly so good in quality as the first. Dead queen is an ordinary brown native, and shows no signs of age. If she has laid well all the season it is nothing against her to cease laying in September.

Cinerera (Pembroke).—Except for being somewhat thin, the honey is of fair quality, gathered from mixed sources, but mainly white clover. We do not notice any disagreeable flavour about it.

R. James (Penarth).—The honey is of fair consistence, medium colour, and gathered from different flowers, not having any special flavour, and it is free from honey-dew.

Suspected Combs.

Salapia (Redditch).—Yours is a very bad case of foul brood. It is not at all unusual for a colony having foul brood in a mild form to send off a swarm and yield a surplus, and later to develop foul brood of a virulent nature, although in your case the surplus is certainly greater than we should have expected from the condition of the comb sent.

Torpoint (Cornwall).—Comb is affected with foul brood of old standing. The frames are worse than useless, and should be burnt at once, together with combs, quilts, &c. As the bees are so weak, it is no use trying to bring them through the winter; they should be smothered and then burnt with the other articles, and hives thoroughly disinfected according to directions given in "Guide Book" before being used again for bees.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

QUEENS we withdraw this week, and to all our customers for their kind letters of thanks we are deeply indebted. If any have not proved their merits will those clients please write?—THE "S. J. B. APIARY," Bromley, Kent.

PRESSED HEATHER HONEY, in bulk, 9½d. lb., send tins; strong Stocks, in Skeps, 1908 Queen, plenty natural Stores, 12s. 6d.-13s. 6d. — W. WOODS, Normandy, Guildford. k 72

QUANTITY CLOVER HONEY, 56s. cwt., tins and packing free. Sample, 2d.—KENT, Bee Farm, Dorchester. k 71

2 CWT. LIGHT EXTRACTED HONEY FOR SALE, Fruit and Clover. Offers invited.—HAZZARD, Haddenham, Cambs. k 70

WANTED, STRONG STOCK, on 10 or 11 Frames, in "W. B. C." Hive, with 2 lifts; must be guaranteed healthy, 1908 Queen.—LOXLEY, Northfield, Birmingham. k 69

RESPECTABLE YOUNG MAN, single, seeks employment, thoroughly understands Bees, Hive-making, &c., also Gardening; could undertake management of Apiary, combined with garden work.—Apply, "H. W. W.," care of BEE JOURNAL. k 68

SECTIONS WANTED. State price. Must be light and new.—THE HONIELADE CO., 23, Moorfields, E.C. k 67

WANTED, 7 lb. DRIVEN BEES, 1908 Queen, immediate.—J. CARTER, Delph, near Oldham. k 66

3 STRONG HEALTHY SKEPS OF BEES, 10s. 6d. each.—DARLINGTON, Charing, Kent.

56 LB. GOOD EXTRACTED HONEY, 28s., granulating, purchaser provide tins; sample 2d. Cash or Deposit.—RICE, Newton-road Apiary, Sudbury, Suffolk. k 64

1 CWT. GOOD EXTRACTED HONEY, 56s. cwt., in 28 lb. tins; sample, 2d. Cash or Deposit. —PROCTOR, Colne Park, Colne Engaine, Earls Colne, Essex. k 63

HONEY, PURE ENGLISH, 1908, 58s. cwt.; sample 3d.; Sections, 9s. doz., 6 doz. lots; also Gentleman's Silver Hall-marked Lever Watch, jewelled and capped, quite new, 25s.; would exchange for ½ cwt. Honey.—DALTRY, Latimer-street, Oldham. k 62

WANTED, ½ cwt. Good Honey, in bulk. Quote price.—HINDE, 10, Dale-street, Liverpool. k 61

FINEST LINCOLNSHIRE CLOVER HONEY, £3 cwt., on rail.—SMITH, Hope House, Caistor. k 60

HIGH-CLASS MICROSCOPE, coarse and fine adjustment, two objectives, mahogany case, splendid condition, 60s., great bargain.—L. WAKEFIELD, Blackmore, Bromsgrove. l 49

WANTED, GOOD SECTIONS HEATHER HONEY. State price.—MISS MAYES, Careby, Stamford. l 48

BARGAINS.—Having unexpectedly secured important position abroad, obliged to dispose of Apiary, strong Stocks (Sladen's strain), good Bar Framed Hives, 15s. each, on rail, Frames secured; Nuclei, 4 and 6 Frames, 7s. 6d.; every Queen young, intended keeping; Extractors, 6s. Cash or Deposit. —PADDOCK, Uppington, Salop. l 50

Special Prepaid Advertisements.—*Continued.*

FOR SALE, 4 dozen 1-lb. jars of Honey.—Offers to W. B. ALLISTER, Throckenholt, Wisbech. l 47

SECONDHAND UNGEARED "GUINEA" EXTRACTOR, good condition, 14s. 6d.—WEST, Beecroft, Bridgemary, Fareham. l 29

CLEMATIS MONTANA, quick climber, masses of snowy flowers in Spring, strong seedlings, 4d. each, 4 1s.; Arabis slips, 20 1s.; Double Arabis, 30 1s.; Limnanthes Douglasii, 50 1s.—F. B. MERCER, Sidmouth. l 28

GOOD LIGHT EXTRACTED HONEY AND SECTIONS FOR SALE.—DAVID HANCOX, Deddington, Oxon. k 74

"THE PREPARATION OF HONEY AND WAX FOR THE SHOW BENCH," post free 7d.—JOSEPH TINSLEY, Chebsey, near Stafford. h 24

JUST OUT, a new and improved Rapid Feeder, and as the price is only 9d., postage 4d., 10s. dozen, carriage paid, every Bee-keeper should try one; Hives at reduced prices, genuine "W. B. C." from 15s.—SOUTHERN BEE SUPPLY CO., Hellingly, Sussex. l 35

SECTION GLAZING.—Best quality Lace Paper, made especially for Bee-keepers' use, not common box edging, white, 100 6d., 300 1s. 4d., 500 2s. 3d., 1,000 3s. 9d., post free; blue, green, or pink, 100 7d., 300 1s. 6d., 500 2s. 6d.; Lace Bands, 2¾in., 3in., and 3½in. wide, white, 100 1s. 2d., 200 2s. 3d., 500 4s.; a few in pink and blue, 100 1s. 4d., 200 2s 6d.—W. WOODLEY, Beedon, Newbury.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

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Post Free on application.

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STILL LEADS. Sample 6lb., post free, 3/- Reduction for Quantities.

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The Celebrated No. 6 TRIANGLE HONEY JARS.

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THE

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W BROUGHTON CARR

OFFICE 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

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Having just made a big contract for practically the whole output of a large firm of Bottle Manufacturers, I am able to offer 1lb. screw-top Jars with Caps and Cork Wads in—

1 gross crates	15/6	C. Pd. at	17/- gross.
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These Bottles are specially packed for me to my instructions, and hence in future there will be few breakages. Catalogue Free.

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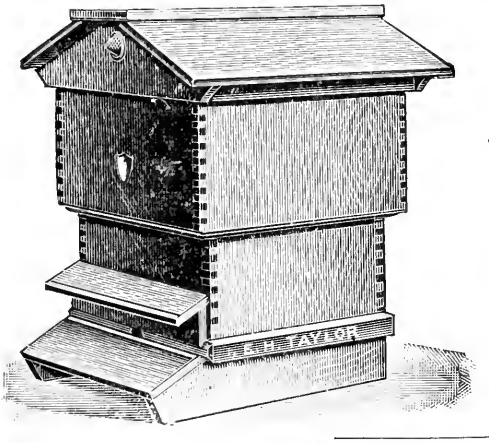

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Correspondence: Whom to Address.—All matters relating to the Literary Department, Associations, Shows, &c., should be addressed "Editors, *British Bee Journal*," and all business communications and matters relating to subscriptions and advertisements to be addressed to the "Manager," *B.B.J.* Office.

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British Bee Journal & Bee-keepers' Record.

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In order to save trouble it is requested that the Rules be carefully read over by persons using the Deposit System of trading.

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1. Method.—When strangers are dealing together, the purchase-money of the articles is deposited at our office. We acknowledge receipt of the deposit to *both* parties, and hold the money until we are satisfied that the purchase is concluded. If a sale be effected, we remit to the seller the amount deposited, less a charge of 6d. and the expenses of Post Office Orders and postage, &c. Cash will be forwarded by Cheque, Post Office Order, or by Postal Order as preferred. If a sale or exchange be not completed, we return the amount deposited, after making the same deduction. By this means buyers and sellers are secured against fraud.

2. Deposits.—Postal Orders (drawn on General Post Office) and Cheques must be made payable to "MANAGER, B.B.J.," and crossed "London and Westminster Bank." The numbers of the Postal Orders should be kept by the sender. We cannot be responsible for any losses that may occur in transit.

3. Honey on Approval.—All honey will be sold by sample, which must be sent direct to buyer.

4. Bee Appliances.—In ordering, the time allowed for completing the order to be stated to us when sending cash. If maker accepts, we hold cash till transaction is satisfactorily completed, when the amount will be remitted, subject to conditions as in Clause 1.

5. Bees and Queens.—These will be dealt with entirely by the parties concerned, so far as price, &c., go, and when the purchase is satisfactorily completed cash will be remitted as per Clause 1.

6. Goods in Transit.—These are at the seller's risk, *i.e.*, any damage to or loss of an article on its journey is borne by the vendor; but a rejected article must be properly packed and returned by the same means as was used in sending it.

7. Carriage.—The carriage of all goods, *except such as are sent by post*, is payable by the buyer, unless otherwise agreed. If any article sent on approval be returned, each party to the transaction must pay carriage one way.

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SUPPLY STORES.

Address—**GEORGE ROSE,**

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For the accommodation of Bee-keepers, guaranteed Pure Cane Sugar will be supplied in large or small quantities through this office at the undermentioned rates:—

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4. DEMERARA .. .. .. } 6. TRINIDAD .. .. .. }	1/6	3/-	5/9	10/9	21/-

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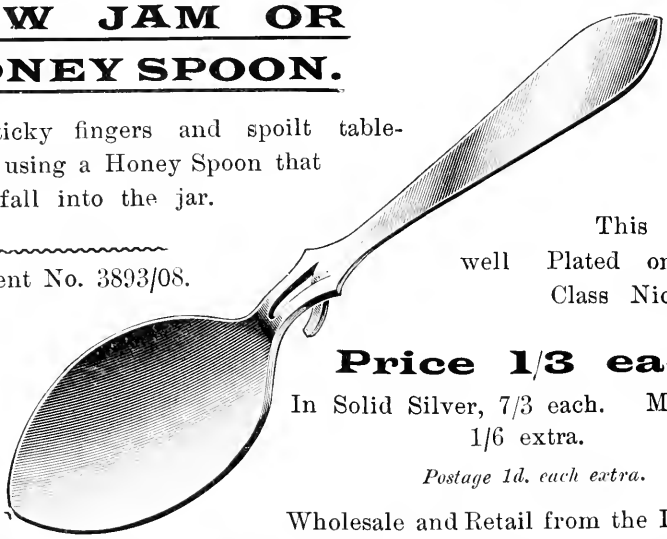

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held at 105, Jermyn Street, S.W., on Thursday, October 8, Mr. T. W. Cowan occupying the chair. There were also present: General Sir Stanley Edwardes, Colonel Walker, Messrs. Geo. Hayes, A. G. Pugh, J. B. Lamb, W. F. Reid, G. H. Skevington, and the Secretary. Letters apologising for inability to attend were received from Miss Gayton, Rev. W. E. Burkitt, Messrs. R. T. Andrews, G. W. Avery, W. Broughton Carr, Dr. Elliot, E. Garcke, W. H. Harris, and H. Jonas.

The minutes of the previous meeting were read and confirmed.

Mr. Basil E. Buckwell, 16, Drayton Road, West Ealing, W., was duly elected to membership of the Association.

Reports upon examinations in Derbyshire, Staffordshire, and Worcestershire were received, and, in accordance with the recommendations of the examiners, it was resolved to grant third-class certificates to Messrs. H. C. Barlow, Cecil Knight-Coutts, E. Loxley, R. North, and Wm. Tinsley.

Arrangements were sanctioned for the second-class experts' examination to be held in various centres on November 14 and 16.

The next meeting of the Council will be held on Thursday, November 19.

REVIEWS.

L'Abeille et la Ruche. By C. and C. P. Dadant. (Geneva: R. Burkhardt. Price 7.50fr.)—This is a translation of Langstroth's "The Honey-Bee," and is the third French edition revised and enlarged. Since the previous edition, published in 1896, the death of C. Dadant occurred in 1902, and the present edition has been undertaken by his son, C. P. Dadant, who, with the assistance of M. E. Bertrand, who revised the translation and corrected the proofs, has brought out this work. Much progress has been made in bee-keeping during the last twelve years, and in retaining all that was possible of Langstroth's writing Mr. Dadant has found it necessary to add much new matter to bring it up to the level of modern progress. The work has been enlarged by over 100 extra pages, with the addition of a number of new illustrations. In going through the book the reader sees at a glance what was written by Langstroth, for it is in brackets, the new matter being intelligently interwoven. Mr. Dadant is well known as an authority on bee-keeping, and this new edition shows the painstaking care with which the editing has been done. In addition to the autobiography of Langstroth, there is a biography of C. Dadant by M. E. Bertrand. We wish the work the same success that the previous editions have had.

Texas Honey-Plants. By C. E. Samborn and E. E. Scholl. (Published by the Texas Agricultural Experiment Station.)—This is Bulletin No. 102 of the Department of Entomology, and treats of many of the Texas honey-plants in a brief and technical manner. Not only are the honey-producing qualities of the plants mentioned, but frequent allusion is made to the respective quality and yield of pollen and propolis. Data are included in many instances concerning the weather conditions and its effects upon the yield of certain plants. There are two indices, one containing all the common or vernacular names and the other the Latin or technical ones. The latter is the more useful, since some plants are only known by their technical names.

Bee-diseases in Massachusetts. By Burton N. Gates. (Published by the U.S. Department of Agriculture.)—This is Bulletin No. 75, Part III., of the Bureau of Entomology, and treats of foul brood, this being differentiated as American and European foul brood and treated as two different diseases, although the remedy recommended is the same for both. A useful map of the State is given showing the distribution of bee-diseases in Massachusetts, and on page 26 there is a table showing the towns in which they occur. That bee-diseases were not recently introduced into the State is evidenced by the fact that in 1828 Dr. J. Thatcher mentioned that a large number of colonies were destroyed by wax-moth, and there is evidence to show that strong, healthy colonies are not usually destroyed by wax-moth, but these are present as a result of a weakened condition of the colony from loss of its queen, disease, or the like. Brood diseases, the author says, can be controlled, but the co-operation of bee-keepers is essential. Sixteen States and Territories now have legislation and inspectors designed to protect the bee-keepers from the spread of infectious bee-diseases. That good has resulted is shown by the following figures of the diminution of the disease in the neighbouring State of New York: Previous to 1899, in a limited area, the loss of bees alone is estimated at $39,383; in 1899, when concentrated effort to suppress bee-disease was begun, it amounted to $25,420; in 1900, $20,289; in 1901, $10,853; in 1902 the loss of the previous year was halved, making it $5,860; in 1903 it was $4,741; in 1904 it was again divided in two, being $2,220; in 1905 there was again a

reduction of nearly 50 per cent., $1,725. Total loss of bees, covering about ten years, $110,491. In other States the encouraging results of inspection and persistent effort to suppress the inroads of disease are similar.

BRITISH BEE-KEEPERS' ASSOCIATION

CONVERSAZIONE.

(*Continued from page* 413.)

Mr. Hill agreed on the importance of packing honey properly, but he thought the scum often found on top was not entirely connected with the ripening process. Would Mr. Herrod take off his supers partly ripened? If he had any affected with honey-dew probably he would be inclined to sell them at a cheaper rate. One most important matter not touched on was the getting of orders. A few hints were required on that subject, many bee-keepers having given up the pursuit because they could not dispose of their produce. He believed that in America bee-keepers went round to tout for orders. They took samples, visiting certain districts or cities, leaving these samples with leaflets describing the honey and offering it for sale, with a promise to come again and gather the orders therefrom. He did not know whether that plan had been tried in this country. He did not speak from a personal point of view, being generally able to dispose of all he could produce, and very often a little more; but there was evidently a difficulty in doing so on the part of some people, otherwise why the familiar advertisements offering in the aggregate tons of honey for sale? Obviously the inability to get rid of honey tended to ruin prices.

Mr. Durrant said he had brought a sample of his own honey to show how he put it up for market. He thought they should distinguish between British honey and English honey. In England, unfortunately, the honey harvest lasted perhaps only six weeks, while that of the colonies extended to twelve weeks or more, so that to keep pace with his over-sea competitor the Englishman must keep twenty hives to his ten; but he could not keep twenty hives at the same cost as ten. They wanted to sell their own honey first, and therefore the bee-keeper must not be afraid to spend a few pounds in order to put up his for market in the most attractive form possible, and make it appear better than that of his rival. Early in the season he put an advertisement in his local paper (it appeared on July 15) saying that sections were now complete and ready for the table, and that unless there was a return of warm, sunny weather there would be a diminution in the crop, and in consequence the price would rise. As would be remembered, there was a tremendous downfall of rain in the middle of July. He had four tradesmen in the town who were selling sections for him, and he now held in his hand a specimen thereof. He received 10s. 6d. a dozen for them, and they were retailed at 1s. 1½d. each. On August 1 a statement appeared in the *Daily Mail* saying, on the authority of the secretary of a B.K.A. (what secretary it did not state), that the 100,000 bee-keepers of this country had had a most extraordinary harvest, and that there was honey in plenty, sections fetching 7d. to 10d. and bottles 6d. each. He would like to know what association was responsible for that story. Mr. Herrod had spoken of 1s. 3d. wholesale for sections. Where that could be obtained he was at a loss to imagine. His (Mr. Durrant's) bottles cost him 18s. per gross, and he was selling them at 10s. per dozen wholesale, the retail price being 1s. He had put up a great many dozens labelled as exhibited; the die cost him £2 2s. (he had had it twenty years), and he thought the get-up was attractive. The importance of making it so could not be overstated. As to packing honey for conveyance, he thought the experienced bee-keeper knew how to do that. He never took any honey until the end of August, when he believed it became fully ripened in the natural way by the bees themselves. At that period of the year it was more dense, richer flavoured, and possessed a better aroma. He did not like artificial ripening. He thought the bee-keeper generally was in too great a hurry to get his honey on the market, whereas if he waited and allowed the bees to do the ripening his produce would be much better.

Mr. Salmon, referring to honey being left over till the end of August, asked if it was considered that honey was properly ripened when sealed over by the bee. (Cries of "Yes.") He believed the froth was due in some cases to the honey being unripe, fermentation having set in. Any extracted honey in that state would be disqualified at shows. With regard to sections not being cleaned before sending them for exhibition, he noticed at the Dairy Show some sections which had just been taken off the hive and were covered with propolis. The difficulty about orders was that bee-keepers (and the same applied more or less to all people in business) were not enterprising enough to get orders. There were some who would never get on in business, whether it were selling honey, or bee-keeping, or anything else; while, on the other hand, there were others who could sell more honey than they were able to produce. Of course, a market could not always be found, but they must advertise and watch other

people's methods. In the county of Suffolk large quantities of honey had been taken this year—over 100 lb. to 125 lb. in some cases, while single hives in better districts had yielded 176 lb. to 200 lb.

Mr. Price said he, like Mr. Herrod, had experienced difficulties in packing. He (Mr. Herrod) said: "After you get the sections into the box put the lid on." He (the speaker) had found "This side up," whether put on the top or bottom, to be of little avail, because the box would probably be rolled over and over in the course of transit; whilst if it were sent with a loose lid or no lid the porters or carriers would not turn it upside down; but of course it was necessary to make sure that the contents could not be removed. With reference to getting orders, he had always been able to secure a good price for his honey, and could easily dispose of more than his bees could gather. Some bee-keepers not only wanted good advice from the expert, but would almost ask him to do their work for them in the apiary, and be disappointed if he could not sell their honey afterwards. And all this with scarcely a word of thanks, taking it for granted that it was part of the man's duty to do it. He believed there was a good market for honey if put up properly. He had found a great many were what he called "nasty" bee-keepers. They would use a lot of old, dirty material without any scraping or cleaning, and present the honey in a most repugnant form, which had the effect of lowering the price, and thus forcing competitors in the neighbourhood who were more careful and cleanly to submit to the same conditions.

Mr. Pugh said that very few bee-keepers would be satisfied to leave their honey on till the end of August. How would the June and July shows fare if they did? He thought the best honey was that which came immediately after the first flow.

Mr. Durrant said his remarks did not apply to sections.

Mr. Herrod, in reply, remarked that he had necessarily left a good deal unsaid on the subject, and he could have occupied the audience two or three hours more without exhausting it. As to the scum which had been referred to, the honey was put into a ripener to allow it to rise to the top, and if there was any unripe honey there it would come to the top also. Scum was not caused by unripeness, but by the globules of air which rise after straining. It would be found in taking off supers that in the first there would probably be a light honey, while in the second super it might be medium or dark. Mr. Salmon's remarks proved what they all knew was correct. If a person would be careful in packing and had good business capacity he could sell honey, the price and method depending largely on the bee-keepers themselves. With regard to Mr. Hill's remark about touting, that was done in this country as well as in America, and he knew one or two bee-keepers who were very successful on those lines—in fact, there was one in the room at that time who hawked his honey and sold it in that way. Diplomacy was necessary to carry on business of that kind. Perhaps at the house visited there was a baby or a child. Well, just a word or two to the mother on the efficacy of honey for the young would be sufficient to start a new customer. That was only one expedient, but it was sufficient to indicate that a lot depended on the tact of the salesman. Concerning the preservation of the honey-supply, there were bee-keepers who the moment the honey was removed from the hive wanted to convert it into money, even to the extent of letting it go for the small sum of 3d. or 4d. a pound. They had no idea of holding out, and did not seem to realise that it would keep from year to year. Had he (Mr. Herrod) known the season they were going to have last year he would have made a good bit of money. He negotiated with a bee-keeper to buy between four and five tons of honey, and the sale was not completed because they disagreed over 2s. or 3s. per cwt. He could have bought the lot at a little over 50s. per cwt. last year, while since then every ounce of it had been sold at 70s. per cwt. He knew a lady in Kent who always took the precaution of keeping up a stock of honey and waiting for a bad season; she then had her reward in the greatly-increased price she obtained. He hoped Mr. Durrant understood that the high price he had received for sections only applied to a few dozen of specially-selected ones. Mr. Durrant was unduly pessimistic over the sufferings of bee-keepers and the sale of honey. Notwithstanding that, there was his evidence that he had continued to use his own label for twenty years, and it appeared that by his methods he was always able to get rid of his produce, so that his lot was not so bad after all. In reference to Mr. Salmon's question, honey sealed over was not always ripe, and if a little immature then it was advantageous to keep it till ripened. He had had experience of railway companies in regard to sections packed and sent to shows. Boxes had been locked, nailed, and screwed, and even then it was clear that all railway officials were not honest, so if loose lids or no lids at all were to be adopted it would undoubtedly be putting temptation in the way of railway porters. He believed in sections being fastened on all four sides to the woodwork, and that it was better to fix them at the bottom of the box and secure them

with a lid at the top. He was in the habit of sending sections to Holland, when they received rough handling in shipment, but they arrived in good condition by his taking care to pack them tightly for travelling. As to experts, no doubt bee-keepers, especially careless ones, expected too much of them; they were wanted to fit supers on and take them off, and find customers for the honey. Those were the sort of people who complained that they were unable to find a market, and when they did happen to do so asked the purchasers to return their emptied sections. They stored these where it was damp, and the wood became dark, speckled with mildew, and with perhaps little bits of comb adhering. They returned these to the hive instead of using new, clean sections, expecting after that to sell their honey. He could give as an instance a case at Luton where this sort of thing had taken place, and where the woodwork was actually eaten away by mice. The customer had refused to take anything from that bee-keeper again, and it was not surprising. He had even seen guano bags used as a covering for the sections. He had no difficulty in selling his honey, and he thought there never need be if people realised, among other things, that the man who takes a quantity must be allowed sufficient margin to sell at a profit that will pay him for his risk. Also that cleanliness, neatness, and tasteful putting-up, together with good packing, were essential to success.

The Chairman thought it would be opportune to send round one or two specimens of honey he had received, which he thought might interest the meeting. One was in a honey-pot made of paper pulp, which was light and portable. This contrivance, which had been made for selling cream, was now being used for honey, as it was a convenient receptacle for the purpose, and could be safely sent by post. Some of these paper pots were exhibited at the Dairy Show, but the specimen shown was sent by Mr. Robb, of Outwell, near Wisbech, who had no difficulty in selling honey put up in this way. He (Mr. Cowan) also showed samples of two different classes of honey coming from a correspondent in Holland, Mr. Hans Matthes—namely, clover and buckwheat honey. The latter on the Continent sold for a better price than the former, but he did not think English bee-keepers would approve of either. Foreign gingerbread, it was known, contained a peculiar flavour, which was due to the buckwheat honey used in the making, and which those present would recognise in the sample shown. Another specimen was that of London honey, produced by the *Daily Mirror* bees. It was not quite so light as some they were in the habit of seeing; nevertheless, it was not at all bad. Then, again, Mr. S. Wilkin disposed of a great quantity of honey by means of an advertising circular which was a reprint from an article in the *Bee-keepers' Record* on "Honey as Food and Medicine." (Specimens of this circular were here handed round.) This was a method which might profitably be adopted in disposing of honey.

General Sir Stanley Edwardes here said he had obtained a dozen of those pulp pots, holding 1 lb. of honey, from the manufacturers, and was trying them. They had at his request been supplied without any printing, but the manufacturers would print name and address, or do anything that was required, very inexpensively. He (Sir Stanley) would let members know what success attended his venture. The pots could be obtained from the Mona Service Vessels Company, Ltd., at £2 15s. per thousand.

The Chairman, speaking on the subject of warming honey, said that very often too much heat was used, which destroyed the flavour. At the Dairy Show a splendid sample had been staged, good in colour and consistency, but when he tasted it he was convinced that the honey had been heated, and it did not get a prize because it lacked flavour, although good in other respects. The exhibitor afterwards admitted that it had been warmed up for the show. People often wondered why a nice-looking honey was not fit for market, but when they tasted it the flavour was no better than syrup. He did not think there should be any difficulty in selling good honey. He knew a bee-keeper who sold a large quantity of his own production, and was also able to dispose of the stock of his neighbours all round. It was much better for the bee-keeper to hold back honey that was not first-class, and even use it for feeding the bees, than to sell it for table use. Mr. Herrod's opinion on these points was valuable because he sold a large amount of honey every year.

Mr. Hill thought that customers preferred their honey in a liquid form rather than in a granulated condition, as many of the general public believed that when in the latter condition it was not genuine. This idea required eradicating, because so long as the bee-keeper went on liquefying his honey to suit his customers they would never accept it in the granulated state. He wished there was some way of convincing people that honey was as pure and as good when granulated as in the liquid form. They should be taught to understand that it was impossible to expect honey to be liquid at Christmas.

Mr. Crawshaw asked whether, in the instance quoted by the Chairman, it was

not probable that the honey had been overheated, as an exhibitor at the Dairy Show told him something which most likely referred to the same case. He (the exhibitor) explained that he wanted to send his produce to the show, but the honey being granulated, he put it to warm. Forgetting to tell his wife before he went out, upon returning he found the honey nearly boiling. Therefore this appeared to be a case of overheating, which he believed to be a fault of many beginners, who were not aware that such treatment was likely to damage the flavour.

The Chairman said it was a common occurrence for bee-keepers to overheat their honey by subjecting it to the temperature of boiling water. A temperature of 160 deg. was about the extreme limit to which honey could be subjected if the flavour was to be retained.

Mr. Crawshaw said he thought 160 deg. dangerously high, and he had found that 130 deg. to 135 deg. would liquefy almost any granulated honey. It was also much better to do it in a closed vessel where it was not exposed to steam.

Mr. Hill believed it was a maxim that the water should be no hotter than would permit of a finger being held in it, but if that degree was exceeded there was a chance of the honey being spoilt. The liquefaction should proceed slowly, the heat being gradually increased up to the limit named.

The Chairman, in answer to Mr. Pugh, repeated that the *Daily Mirror* honey sample had been gathered by bees actually in London, and that it had been extracted by Messrs. Abbott Bros. He thought they had had a very interesting and profitable discussion, and thanked Mr. Herrod for so ably introducing the subject at such very short notice.

(Report continued next week.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[7246.] As packing-up our bees for winter is now the order of the day, see that each colony has a sufficiency of food to carry them through the foodless months. If any doubt exists on this point, give a good size (2 lb. or 3 lb.) cake of soft candy, also put two or three short pieces of split wood across tops of brood-combs, then place the first quilt carefully over same, and be sure that it covers the whole of the brood-combs and fits well and closely around the edges, thus preventing updraughts through the brood-nest. Over the feed-hole in the first quilt put the candy, then pile on the other wraps, which should be of some soft material, or, best of all, a chaff cushion. When the rain-proof roof is put in its place the hive, if of the useful combination make with double walls, will be the best possible receptacle to enable the bees to withstand the trying months of winter. A last word on packing—do not forget to take preventive measures against the intrusion of mice into the hives during the winter. Remember the losses of 1908 through these little pests.

The foreign honey question seems to attract considerable attention in the pages of the BRITISH BEE JOURNAL, and I gather from correspondence with English bee-keepers that the failure in our honey crop in 1907 has enabled the bottlers of foreign honey to secure a larger share of the English trade in honey than heretofore. This information has been confirmed by one or two of my usual London customers, who state that they are able to buy honey of fair quality, labelled "Finest New Honey," in full 1-lb. size jars, which they can retail at 9d. each. In view of this, I was very glad to see the good account of the noted London emporium in last BEE JOURNAL (page 418) which sells only native honey, and if a few such pointers can be produced in your pages I consider it will materially help our craft. There is one point I would commend to the consideration of bee-keepers, and that is, when they are selling their crop to brother bee-men to sell again, they should be content to allow the purchaser a fair margin of profit, or sell at least at a price which will ensure the purchaser not having the trouble, work, and railway risks, to say nothing of the usual trade risks, with the margin on the wrong side at the finish. Honey purchased at 7d. per lb., carriage forward, cannot be put up in ½-lb. jars at 4s. 6d. per dozen, or 1-lb. jars at 9s., and leave any profit to the bottler. Just tot up the cost of jars, the carriage of same (often from a remote village), the cleaning of jars, the labels, packing, and boxes, carrier's charge to railway, and oftentimes carriage to destination, and it will be seen that the sale of other people's honey is not a paying game.—W. WOODLEY, Beedon, Newbury.

ROSS-SHIRE NOTES.

[7247.] The past season, although by no means a record one, has been highly satisfactory to bee-keepers in general. The

clover harvest was good, heather yielded well, and yet three-figure takes are few and far between, while the average returns are rather below those of 1906. In former seasons we have experienced short and rapid honey-flows, when strong colonies stored a large surplus, while others did next to nothing. On this occasion the conditions somewhat resembled those prevailing in the sunny lands, where bees gather honey steadily for several months, and still the actual surplus may be no greater than might be secured in two weeks' steady work.

The general average seems to have been between two and three racks of sections, although the best lots completed four. These were undivided stocks. On the other hand, expansion, dividing, and subdividing strong colonies, starting off the increase with fertile queens, gave the best results of any. It was quite the other way about in 1907. Then dividing in most cases was practised at a loss, and triple expansion with ruinous results. But this year the colonies split in three stored the largest surplus, one giving just over the three-figure mark in sections alone, while another stored 120 lb., over 70 lb. being in completed sections. Both stocks were Italians and the queens in their third year.

By the way, it was noticeable that colonies headed by 1907 queens, whether black or yellow, gave the poorest returns. Possibly the untoward conditions prevailing last year adversely affected the upbringing of those queens. All such colonies were closely contracted in early August, the removed combs of brood being placed in a spare body-box, which was filled up with partly-stored extracting-combs and set above the supers, an auger-hole through the lift doing duty as entrance. Each lot was given a fertile queen recently mated *à la* Swarthmore, and, aided by the fostering warmth from below, built up strongly without any attention.

When the last stand was at an end these vigorous young stocks were joined to others whose queens had failed to prevent their brood-combs being blocked with the precious heather honey. This idea is worth noting, particularly in connection with the small comb mating system. In an extended form I believe it would largely increase the yield of saleable heather sections: in fact, the one colony experimented on gave the very best results, both as regards quantity and quality.—J. M. Ellis, Ussie Valley, October 10.

FOUL BROOD ACT (IRELAND).

[7248.] When I wrote the article (7211, page 374) I hoped that a discussion might be started, in which some of the writers whose names are as familiar to us as household words might dissect and analyse this measure far more keenly and ably than I have done. In a multitude of counsellors there is wisdom, so that when the time comes for England, too, to legislate we might, with their experience, coupled with the observation of how this Act may work in Ireland (it is wise to learn from our friends), produce a law equally just to the unfortunate owner of diseased hives and to his neighbourhood. I had even hoped that some of our friends in Ireland would take up the cudgels for the bantling. I have dragged the tail of my coat, but there are no more shillelaghs in Donnybrook.

> Are their eyes grown dim or their hearts grown cold?
>
> I know not, in sooth; but from yonder wall
> There flashes no fire and there hisses no ball.

Is it that I am really incapable of expressing my thoughts in King's English, or am I growing fearfully stupid? Once I *did* believe that when I wrote "Yes" people would not read it "No." But, alas! Mr. Doleman (7234, page 404) has knocked this conceit out of me even in his first sentence. He refers to my expressing a wish that we may have a similar measure for England, and stops there, not quoting the immediate successive words, in which I say "it must be considerably altered." These last words completely change the meaning. And in my first paragraph I try very hard to show that there is nothing in the Act to authorise the destruction of honey and wax, therefore they need *not* be destroyed. Hard lines to fail when I was so explicit.

Will Mr. Doleman kindly illumine my blindness to discover the omission I have passed over in Clause 1? I am very bad at Chinese puzzles, and this sentence in reference to it is so ambiguous that I cannot grasp what he is driving at.

Also, does it not matter if Clause 1 or 2 is printed first? It is a very ill-advised proceeding to let the horse drag the cart—not the cart drag the horse, which generally succeeds best. But there, this is an Irish Bill (I had almost written "bull"), and Pat has such a humorous way of doing things. To paraphrase Mrs. Glasse, "First catch your foul brood, then cure it."

I should picture Mr. Doleman as a very good-natured man. In the largeness of his heart he cannot conceive that an inspector should lose his head. Unfortunately, in this hard, workaday world we must take facts as they are, not as we would have them. I have had experience of experts who could manipulate a hive perhaps, but take them out of the rule-of-thumb in which *they* work to the reasons why and wherefore *Nature* works

and they are lost. Armed with compulsory powers without the brains to use them, they would ruin a whole district.

It is the ambiguity of the word "area" I am combating. Why not parish or similar division? It would centre the spot. Draw your cordon round these, but do not massacre a county.

Compensation and its rate being, as yet, only in the air, it is futile to discuss it. Mr. Doleman will not let me off without another perversion of meaning. I hold that clean hives and surroundings are absolutely of the first importance in checking foul brood. Compulsory inspection will compel this, and in my opinion this is the crux of the controversy.—CUMBRIAN, October 14.

FERTILISATION OF WHITE CLOVER.

[7249.] Are bees necessary for the fertilisation of white clover (*Trifolium repens*)? This is a matter on which I shall be pleased to know the opinion of those of your readers who are botanists and who have studied this question, as I have no doubt there must be many such amongst the number.

I have always understood from what I have read, heard, and observed that the bee was absolutely necessary to the flower —in fact, that the one was pre-eminently fitted for and necessary to the other, and this is what I have always taught. Last summer, however, my faith in this was severely shaken by a statement made by a professor in botany, who is also a great authority on such matters. He said bees were *not* necessary to the fertilisation of clover, and that most of the Leguminosæ were self-fertilising.

That *some* are so I am, of course, aware, but I have yet to find that white clover is one of them. The matter is of importance to all teachers of apiculture, and of sufficient interest, I think, to make it worth discussion in our journal, to draw out evidence for or against, and thus enable us to have a right understanding concerning this subject.—GEO. HAYES, Melhurst, Beeston, Notts.

SIMPLE UNITING.

[7250.] A short time ago I accidentally stumbled upon a simple but effectual method of uniting two stocks. I do not know whether it is an original or an old plan, but I cannot remember having seen it described in any bee-book that I have read, and therefore suggest this method to your readers as a simple plan which will work well every time and at any time of the day. After gradually bringing the two stocks you wish to unite alongside, and when the bees are accustomed to the spot, take away both queens. Two or three hours afterwards, when the bees have thoroughly discovered they are queenless, or any time after three hours but within twenty-four hours, give each stock a good smoking, and in a few minutes unite by alternating the combs; both colonies having recently been deprived of their queen, they are temporarily demoralised, and it will be found that not a bee will be lost through fighting. No scent or flour is required.

After uniting, insert the queen in a cage—preferably a cage which does not require disturbance of the hive to liberate her, but one in which she will be liberated by the bees in a few hours.—JOHN SILVER, Croydon Grove, Croydon, October 17.

A QUEER HAPPENING.

[7251.] Last year I sent some stocks to the heather, and they came back poorer than they went. In the spring one stock was found to be queenless, and perhaps had been so during the winter, and this I re-queened, and the queen was accepted and laid well. But, strangely, the stock not only could not keep up with the queen's fertility (they neglected patches of brood), but they destroyed brood in the centre of the nest, and cast it out. Frames of brood had been given before the re-queening, but they had treated these in the same way, and made no effort towards queen-rearing, although there were eggs in the frames. As a consequence the stock died out. Can you or any reader explain this? I can only assume that through a long queenlessness the stock had lost the preservative instinct.—THETA, October 15.

[Has any other reader of B.J. had a similar experience?—EDS.]

MATERIAL FOR HIVE-MAKING.

[7252.] I am a "new chum" at bee-keeping, only starting this year, and was much interested in your report of the Congress held at the White City. One speech struck me particularly—that of Mr. Reid on the trouble, &c., of wooden hives (page 283). Are the disadvantages of the wooden hive as great as represented? Since reading above-mentioned speech I have been experimenting with different materials, and although I have obtained damp-proof hives of absolute truth in brood-chamber which will resist any sort of weather for any length of time without painting, I have been unable to keep weight down, the one I fancy most being of reinforced cement. It weighs (body-box, brood-chamber, lifts, and roof) 100 lb. Is this too much? Please give me your opinion, and also if

I am trying to remedy an evil that exists only in the imagination. Thanking you in anticipation.—BEE-HOUSE.

[As hives have to be lifted and moved about weight is a great consideration, and so far nothing has been found better than wood. It is true bees have been kept in cylinders made of pottery, but in the hot climates where they are used the hives are not displaced and manipulated as they have to be on modern principles. Any improvement in material for hive-making must be in the direction of economy as well as convenience. So far, taking all things into consideration, there is nothing to beat wood.—EDS.]

OUT-APIARIES.

[7253.] On page 394 of the B.B.J. "G. W. S." asks for some "frank and friendly opinions" on the suitability or convenience of out-apiaries, and as both mine are out in the country I will give the pros and cons, so far as my experience goes. First, then, I live in this town for educational and other reasons, one of my apiaries being five miles out and the other about three miles further on, both on the Cotswold Hills. As the bees only really require regular attention from, roughly, April 1 to October 1, it would not be much advantage to live near them, and though the railway runs close to both apiaries, I rarely take advantage of it, because cycling to and fro is such healthy exercise. A carrier passing bi-weekly is my means of conveyance for syrup, &c., to the bees, and honey, &c., from them, and on the whole I do not experience any inconvenience in that the bees are away from my home. No one ever molests them, chiefly perhaps because a hive of bees is a difficult thing for a novice to steal and to turn into ready cash; and the apiaries are surrounded by fields of sainfoin, white clover, charlock, and beans, which only an out-apiary can benefit by.

The chief drawback is that the owner cannot be always with his bees at swarming-time, but if they are run on a non-swarming system—as mine are—no loss of swarms is risked. Other minor drawbacks are that warm syrup cannot be fed when away from home; in case of sickness or accident it is difficult to go oneself or to send an assistant to a distant apiary; and it is not an easy thing to find suitable sites for out-apiaries, orchards and plantations being the best.

But, in my opinion, if one can secure a good place for the bees in the country it is most advantageous to live in a town, where one enjoys economical and social benefits, and also facilities for repairing or making hives and packing and selling honey, &c.

Any bee-keeper desirous of starting an out-apiary, if no botanist, should secure the opinion of some local farmer as to the suitability of the bee-forage available in the locality which he is choosing, as it is no good locating bees either in a district of purely grass fields or yet in the centre of heavy, ploughed land! A sheep district is the best for bees, because where sheep are bred and fattened suitable green foods for them are grown annually, such as tares, sainfoin, alsike, and white clovers, turnip seed and beans; also the wild mustard or charlock, which grows amongst all corn sown in the spring.—C. CALVERT, Cheltenham, October 19.

SELLING HONEY.

[7254.] The impromptu speech by Mr. W. Herrod at the B.B.K.A. meeting, reported in your last issue, is worthy of being acted upon by all bee-keepers. Such a report from an experienced man cannot fail to convince the careless, who mix all sorts of honey from the hives and market it, that they indeed must be stupid who can afford to ignore a practical and common-sense piece of advice. I personally tender my thanks to Mr. Herrod, and would say that all information of this kind deserves the heartiest thanks of the fraternity.

May I, Messrs. Editors, ask our practical bee-men to give us, with your permission, some sketches of how a room should be fitted for extracting honey and wax, a place for tools, &c., combined with a store-room for keeping honey in the right temperature, fireplace, &c.? A model exhibit of such at one of our shows might be worthy of a prize.—W. T. CADNESS, Ilford.

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. Macdonald, Banff.

Placing on Supers.—"White clover is just coming in, with basswood to follow. We therefore place all the empties under those partly filled. The effect in every case has been to check swarming and inspire new energy in the bees. A little later we will place all empties on the *top*." So writes Mr. Root in *Gleanings*. Mr. Doolittle in next issue has an article on the same subject, and says: "The room should be given in such a way that the bees would not occupy it unless needed. When nearing the close of the season they should *always* be put on top. Of late years I put all supers after the first at the top." This newer system has several good points in its favour.

Emptying Combs.—At the Medina yard the following plan is being successfully

practised: "A number of wet combs are placed about nightfall in front of the hives, one frame (or section) in front of each entrance. A little later, after a few bees have clustered on the combs, they are put into hive-bodies and carried about a quarter of a mile from the apiary and set down. The next morning those bees filled with honey are liberated, when they fly home and deposit their loads. Soon they go back for more, until all the combs are completely emptied." The plan is good, as the bees look on it as a genuine flow, so that there is no uproar, and no encouragement is given to start robbing.

Yellows Again!—In an editorial in the same paper we are informed: "We are getting complaints from all over the country that extra yellows are much crosser than the old-fashioned hybrids of blacks and Italians. This has been our experience year after year, but we are compelled to furnish this yellow stock, because the trade will have it in spite of its bad temper and also its lack of hardiness. There is nothing better than the old-fashioned leather-coloured Italians, and we are inclined to believe that a little admixture of black blood improves them for honey." I like that last admission, and approve of it because it is true.

Wind and Wintering.—"My yard is better protected from winds at the north than at the south end. I find that the loss in the north half was barely 1 per cent., while in the south half it was 14. I also find that the colonies of the north half average much stronger, as a rule, than those at the other end." Columella long ago laid down as a law that shelter should form a chief guide in laying down an apiary. The rule still holds good.

"The Old Reliable."—The price of the *American Bee Journal* is now 70 cents, with postage to Great Britain $1. It has taken over the list of subscribers of the suspended *Bee-keeper*, so that we may count on contributors to the defunct paper yielding us of their wisdom and experience in the pages of the forty-eight-year-old *Journal*. In recent issues the subject of queens has been dealt with extensively. One writer gives it as his experience that "almost any queen is good enough to go for the untested variety, and but little difference is made between these and the tested kinds, save that the tested are much older." "It is naturally understood that queens procured from an experienced breeder should always prove superior to those in a home yard where home breeding is not practised, and it is somewhat discouraging to state that the contrary is too often the case where anything but the best breeders are ordered." Another writer with twenty years' experience says: "I feel satisfied that a young queen will keep the honey out of the brood-nest better than an old one, and thus gain the advantage in surplus-gathering, although she may not be any better otherwise." The fact is important and true.

To Check Swarming.—"1. Run for extracted honey. 2. Use large hives, and give timely room both in brood-chamber and in supers. 3. Give abundant ventilation. 4. Locate hives where they will have the full benefit of every passing breeze. 5. Shade the hives. 6. Breed from stock showing least inclination to swarm." These points attended to, swarming will be considerably minimised, if not wholly eliminated.

"Wax Craft."—All the American bee-papers have commendatory notices of Mr. Cowan's new book. *Gleanings* says: "No work of this kind has been published before, and we are of opinion that it will fill a long-felt want." The *Review* considers "it is a handsomely printed and illustrated volume, and covers the ground more completely than any other book." The *Journal* holds that "Mr. Cowan has rendered a distinct service to mankind in the preparation and publication of this book, the cloth-bound copies of which are the most artistic of any gotten up in all beedom. The contents are of unusual interest to the bee-keeper or anyone who has to do with beeswax." The *Canadian Bee Journal* says "it will fill a long-felt want."

Queries and Replies.

[3819.] *Keeping Bees near Railway.*—My daughter and I are very anxious to start keeping bees. We have carefully read your "British Bee-keepers' Guide Book," and venture to hope we could make them pay fairly well, but we are afraid the railway line, which runs at the bottom of our garden, would be detrimental; in fact, we have three lines—the G.W.R., the District, and the Harrow line. We trust you will forgive our presuming to trouble you with this question, but we are anxious for real and continuous success, and we do not know how to decide, and we gather from the book that quietness is essential.—M. E. H., Ealing, October 13.

REPLY.—There is no difficulty in keeping bees near a railway, as they soon get used to the vibration caused by the trains. As a matter of fact, hundreds of colonies are kept close to railways, and a good many station-masters and other employees are successful bee-keepers. In Germany and Austria the Governments appoint instructors to teach the railway officials bee-keeping and encourage them to do so. The main point in successful bee-keeping

is whether there is plenty of the right kind of bee-forage in your district.

[3820.] *Candy for Winter Food.*—Can you inform me if there is any objection to giving bees candy for wintering that has granulated slightly? The candy in question is smooth for the most part, but although it has been reboiled, it still contains a number of tiny hard particles, and I should like to know if there is any danger in giving it to the bees in this state.—E. M. W., Highgate, October 12.

Reply.—There is no harm in giving candy with a few hard particles, as the bees will utilise the soft and reject the hard parts. If you wish to feed now thick syrup is preferable, and the candy can be used in spring if bees are short of food at that time.

[3821.] *Utilising Driven Bees.* — Will you please advise in your next issue on the following? I was thinking of buying one lot of driven bees in a straw skep, leaving them in the skep for the winter, and putting a box super on the top. I suppose the bees will want regular feeding with syrup? What is the best way to feed bees in a skep? I send name and sign—Novice, Yorkshire, October 15.

Reply.—For feeding the bees a hole would have to be cut in the top of the skep, and a board fitted on to take feeding-stage. It is, however, too late to get driven bees to build combs in a skep with a view of successfully wintering them. This should have been done in August. The only way now is to hive the bees on ready-built combs in a frame-hive, and feed with good thick syrup as rapidly as possible. There should be about 5 lb. of bees to ensure success.

[3822.] *Feeding-board.*—1. I am sending with this letter a piece of comb taken from the hive of a friend. Will you kindly tell me if it is affected with foul brood? 2. Will you also tell me if you think my idea for wintering is practicable? It is to make a bee-escape board for each hive with a hole cut out of the centre in which (for winter) a piece of glass could be put, while for use as an escape-board a piece of wood with bee-escape in it could be fitted. My idea is that, arranged thus, a cake of candy or feeding-bottle could easily be put on without disturbing the bees, all that would be necessary being to remove the glass. 3. Will you also tell me if there is a Cornwall B.K.A., and, if so, the name of the secretary? Please reply to—Rev. October 14.

Reply.—1. The comb sent is affected with foul brood. 2. Thirty years ago hives were made with wooden covers having a hole in centre for purposes of feeding, but they were discarded in favour of quilts, which are in every respect superior. There need be very little disturbance of bees if the calico quilt which goes on top of frames has a hole in it, which can be covered with a small piece of calico when not required for feeding. This can be removed for placing on it a cake of candy or the feeding-stage as recommended on page 110 of "Guide Book." 3. The hon. sec. of the Cornwall B.K.A. is Mr. T. R. Polwhele, Polwhele, Truro.

[3823.] *Transferring Bees.*—I have lately become a reader of the British Bee Journal, and as I know you give advice to your readers, I should be much obliged if you would tell me whether in transferring a bought stock of bees from the travelling-box, which would contain frames, I should simply transfer the frames from the box to the hives or adopt the method as given in the "Guide Book" for transferring from a box.—E. Rising, Dalston, N.E., October 16.

Reply.—You have simply to lift the frames out of the travelling-box and put them into the hive in the same order as you found them in the box.

[3824.] *Honey from Apple-blossom.*—I have got fifty hives in working order, and by the time apple-blossom comes on I hope to double the amount. Do you expect a lot of honey from the apple-blossom?—J. T. Muhlbauer, Cape Colony, September 29.

Reply.—In this country honey from apple-blossom is frequently produced in excess of the requirements of a stock, and consequently stored in supers.

Notices to Correspondents.

*** The Editors thank M. Sutton, H. Percival, T. Price, and others for kindly offering assistance to correspondent "A. L., Manchester."

A. H. Smith (Bristol).—In reply last week, on page 420, a printer's error has slipped in. Instead of "sweet-sugar" it should have been "invert-sugar."

Busy B (Surrey).—The queen was completely dried up when received, but does not appear to have been fertilised.

S. H. (St. Buryan).—*Sugar for Bee-food.*—No, we should not use either sample for bee-food on which to winter bees, both being unrefined and most probably beet-sugar. If pure cane, unrefined sugars may be used in spring with safety.

*** *Some Letters, Queries, &c., are unavoidably held over till next week.*

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PURE EXTRACTED CLOVER PRIZE HONEY, county label, bulk, 28 lb., 14s.; 1-lb. Screw-cap Jars, 8s. per dozen; carefully packed, free on rail. —MORRIS, Welland Valley Apiary, Barrowden, Stamford. l 62

BOX OF BEES, on Combs, about 1 cwt., made to take two Section Racks, also two Racks Sections, with Starters, 17s. 6d., on rail.—W. HOCKIN, Victoria-square, Holsworthy. l 61

WANTED, PURE HEATHER HONEY, in bulk. State quantity and lowest price per cwt.; will send tins.—FISON, Rawdon, Leeds. l 60

SELL FOLLOWING INCUBATORS: 200, 100, Cyphers; 100, Clive; 100, Tamlin; 50, Hearson. —HERROD, Apiary, Luton. l 59

WANTED, TO PURCHASE, CHEAP FOR CASH, Bound "Bee Journals," 1890 to 1905. Sell, or exchange years 1881, 1883. — HERROD, Apiary, Luton. l 58

FOR SALE, 7 dozen Sections Honey, in glazed cases.—GARVERY, Hurstbourne Tarrant, Andover. l 57

PURE WELSH HONEY, 28 lb. 15s. 6d., 56 lb. 31s.; cwt. lots, 60s. per cwt.; also in gross lots, nominal lb. size.—G. THOMAS, Pwllcrochan Rectory, Pembroke. l 56

FOR SALE, 22 Stocks, 2 Shallow-frame Supers each, Frames and Foundation, 30s.; empty Hives, 5s. 6d. each.—E. BENNETT, Heacham, Norfolk.

FOR SALE, a few good Stocks Hybrid Carniolans (bred from M. Michael Ambrosic's celebrated strain of Carniolans).—Particulars and price on application, T. JOHNSON, Lime Tree Apiary, Dunham Massey, Altrincham. l 54

SECTIONS WANTED, best quality, unglazed. State price on rail.—T. SMITH AND CO., 17, Cambridge-street, Hyde Park. l 53

FOR SALE, 2 Skeps, Honey Ripener, Uncapping Knife, 2 Smokers, Extractor, and 5 Frame-Hives. No reasonable offer refused.—H. SEDSTILL, Meadowside, Four Oaks, Birmingham. l 51

PRESSED HEATHER HONEY, in bulk, 9½d. lb., send tins; strong Stocks, in Skeps, 1908 Queen, plenty natural Stores, 12s. 6d.-13s. 6d. —W. WOODS, Normandy, Guildford. k 72

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COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

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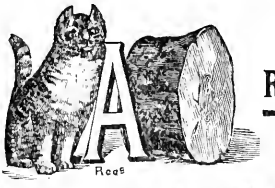
NEW  READY

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THE

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

REGISTERED FOR TRANSMISSION AS A NEWSPAPER.] [ENTERED AT STATIONERS' HALL.

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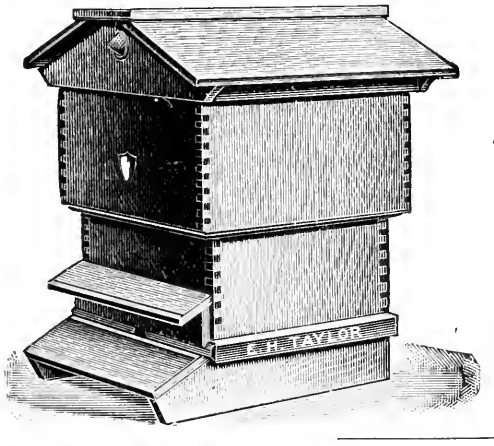

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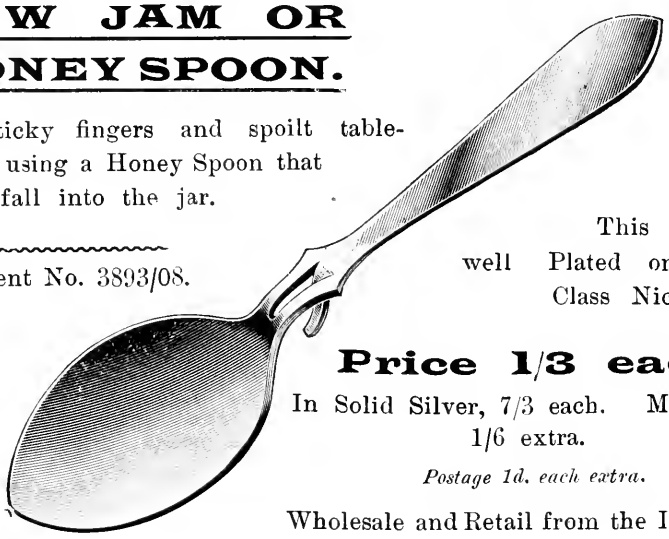

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

CONVERSAZIONE.

(*Continued from page* 425.)

Colonel Walker then introduced the second subject for discussion, viz., "Stings."

"It was rather too hurriedly," he said, "that I promised our secretary to introduce the subject of 'Stings' this evening, and on further consideration I was distressed to find out how little I knew about them. Even now I am not quite sure how many living creatures are furnished with stings. On mentioning my difficulty to a lady she at once suggested serpents: 'Why, of course,' said she; 'what do you think their forked tongues were given them for?' The question remains unanswered—another entry on the long list of what I know I don't know. Fortunately, the only stinging creatures that much concern bee-keepers are bees and wasps.

"There is something peculiarly exasperating in the way wasps coolly walk in and out of bee-hives in the autumn. Bees seldom have the courage to tackle them in earnest: and if they do they always come off badly: their stings fail to act on the wasp, who, on the other hand, kills bee after bee with little trouble. The rings of the bee's abdomen seem to fit more loosely, perhaps owing to spaces being required between them for wax secretion. The wasp's fit very closely. I have occasionally introduced a decapitated wasp into the passage of my glass hive, and seen two or three bees stung to death in trying to carry it outside. This has even happened when a second cut with the scissors left only an abdomen to deal with. The experiment seems a cruel one, but I believe that the head once off little feeling of pain remains.

"The wasp has one enormous advantage—it can sting repeatedly. The peculiar shape and greater development of the barbs on the bee's lancets give a very firm hold, which, although it may compensate for a comparative deficiency in driving power when the wound is being made, retains the sting, and generally makes it impossible for the bee to escape without incurring a vital injury.

"It is probable that in diverging from some ancestral type common to both of them, bees and wasps underwent the special physical development most suitable to the conditions each had to encounter, and especially with regard to the position in the insect world they found themselves compelled to take up. The facts harmonise fairly well with this view. The methodical, and as a rule perfectly inoffensive, honey-bee gathers its stores from plants and flowers; the wasp, a gaudy bandit, lives by preying on other insects, which form not only its own chief sustenance but that of its young, so that a sharp weapon always at hand and ready for use is a paramount necessity.

"Again, the individual worker-bee is but a unit, in a perennial colony capable at need of indefinite expansion; but each spring the mother-wasp has to found a new colony by laboriously building the cells in which she rears the few workers without whose assistance the work could not be continued. On their existence depends the success of her enterprise; she will not find the strength to begin all over again. It is not too much to say that were the worker-wasp under the same disabilities as the worker-bee the continuance of the race would be seriously endangered.

"The sting of the queen-wasp is straight, like that of the worker, and quite as efficient. The queen-bee's is curved, and the lancet barbs not highly developed. Major Munn, a prominent bee-keeper in his day, suggested that she killed her rivals by inserting her sting through the openings of their spiracles. Cheshire found that as the queens grew older the fluid in their poison-bags became too thick to allow of its flowing through the sheath. It seems to have been arranged that the queen-bee's sting shall not be a source of danger to herself: her life is too valuable.

"The exact constituents of the poison injected by bees and wasps have never yet, I believe, been ascertained, though both are said to contain formic acid. There is certainly a distinct difference between them both in odour and effect, the wasp's poison being probably the more virulent, and in my own case it produces an itching which lasts three or four days, and closely resembles that caused by a nettle, the glands of which are also said to contain formic acid. The pain caused by a bee's sting, though sometimes acute, is with me only momentary.

"Curiosity has often tempted me to get stung by a hornet, but at the critical moment my courage has failed me. This spring the chance of my lifetime presented itself, for a queen-hornet came into the house, and was captured. But even then I was able to restrain myself, and this formidable insect went off to Mr. Herrod, who, as his advertisement tells me, cheerfully takes all risks in the interests of science.

"There is much difference in the way in which various bees, perhaps various races of bees, do their stinging. Some dash at you, and are gone in a second, leaving their sting broken off at the root. Others

are more leisurely, and wander about before they find a suitable place. These, I think, are the more objectionable, and of one in particular I retain a painful memory. At a certain agricultural show I had found my way, an innocent spectator, to the bee-tent, when the expert, recognising me, asked if I would take his place and do a little talking while he went away for a few minutes. So I stepped inside, and began. He had just finished driving a skep, and a few bees were circling dreamily around the tent. Presently two settled on the back of my neck, with the usual results. I took no notice. Then one stung me on the ear—a tender spot—and I could not help raising my hand to it. Some silly fellow chuckled; but I talked on, till another bee, alighting on my moustache, left its sting in the partition that divides the nostrils. The pain was excruciating. I looked straight before me, but my eyes filled with water, and I began to sneeze: my friend on the other side of the netting was enjoying himself enormously. Fortunately, when almost in despair, I caught a glimpse through my tears of a nice new veil laid out with other appliances on a small table. Promptly I took up the topic of 'Veils: How and When to Use Them,' and, as soon as decency permitted, this particular one was tucked comfortably under my coat collar. My friend the expert then came back and relieved me. I bade my audience adieu, and for some reason or other I took the veil away with me.

"The best advice I can give for the avoidance of bee-stings is: Never be in a hurry; try not to be nervous. Rough or timid handling makes bees aggressive. As to what to do when stung innumerable recipes have been suggested, and not one of them is always effectual. In as far as most of them consist in rubbing or smearing some substance over the wound, and thus keeping the air from it, they accord with Nature's remedy: the child sucks a sore spot; dogs and other animals lick one. If this does good—and it seems to do so—it cannot well be the brief fomentation but rather the covering of saliva that eases the smart, just as when the glutinous matter of a young shoot of dock—another of Nature's remedies—relieves the itching of a nettle sting. Acting on this hint, I have found vaseline a soothing remedy for trouble from wasps and nettles; for a badly-inflamed sting of any kind I should try Pond's Extract applied on a soaked rag. Sydserff, a bee-master of Leigh-on-Mendip, who published a small book in 1792, was persuaded that a sting could be cured by another in the same place. The best plan is to take them cheerfully, and to try to believe that, as some hopeful people say, they will keep off rheumatism.

"In our degenerate days bee-stings are (to those who escape them) a subject for ribald mirth. It was not always so. Poets have often used the honey-bee as a symbol of the sweets and smarts of love. Kama, the Hindu god of love, was depicted as armed with bow and arrows; the bow a sugar-cane, and the bowstring a chain of bees. Theocritus, the Greek poet, about 265 B.C., has a pretty tale of Cupid being stung by a bee, and how he ran to his mother Venus for consolation. Amongst others, our own poet Herrick tried to imitate this idyll, and his quaint seventeenth-century lines have such a charm that, with your permission, I will conclude by repeating them:—

> "Cupid as he lay among
> Roses, by a Bee was stung.
> Whereupon in anger flying
> To his mother, said thus crying:
> 'Help! O help! your boy's a-dying.'
> 'And why, my pretty lad?' said she.
> Then blubbering, replyed he,
> 'A winged snake has bitten me
> Which country people call a Bee.'
> At which she smiled; then with her hairs
> And kisses drying up his tears:
> 'Alas!' said she, 'my Wag! if this
> Such a pernicious torment is,
> Come tell me, then, how great's the smart
> Of those thou woundest with thy dart?'"

Mr. Crawshaw said he was extremely interested in Colonel Walker's remarks about headless wasps. He had made somewhat similar experiments with bees, flies, and wasps, and was surprised to see what a long time the insects stood still after decapitation, apparently conscious and quite content. If touched they gave immediate evidence of life. The headless bee would defend herself and put up her leg—in fact, although her actions were probably reflex, they were somewhat the same as if the creature were entire. This was no doubt due to the fact that there were ganglia in her body. The wasp was no doubt conscious in some way, and exercised its minor thinking powers sufficiently to repel attack. With regard to poison, the question was, Did the queen contain poison? He thought the queen must contain some poison. Sometimes stings hardly seemed to affect the victim at all, but he thought they were generally much worse during the honey-flow. There was no doubt greater intensity in the intentional bee-sting than in an unpremeditated one. When a bee came with force and gave full thrust to her weapon, the results were more serious. He quite endorsed Colonel Walker's experience of the painfulness of a sting on the nose. When he (the speaker) first began to keep bees he bought a hive from a neighbour, and in trying to shake out a large swarm into it he went through an ordeal that he would never forget. It was said that

swarming bees never stung, and if an accident of that sort happened, it was caused by bees from some other hive. At any rate, on the occasion named the bees came straight for his face, and vented their malice on him. Nobody knew him for weeks. His nose dilated and his top lip swelled to such an extent that it turned up. The next thing was a sting on the forearm. He tried to take as little notice of it as he could, encouraging himself to be very brave; but the arm went black and blue, and in fact most colours, and swelled to such an extent that he had to stop in bed in consequence. The best and only remedy for bee-stings he believed was to get used to them, which could only be done by practice. He did not believe much in sucking as a cure: it was very difficult to suck the back of your neck. (Laughter.) He could mention other parts of the body which were in the same plight. (Laughter.) Personally, he now thought midge bites were far worse than bee-stings. Might he ask if Mr. Herrod used the hornet sent him by Colonel Walker for stinging purposes? He thought there was a large field for experimentation in regard to this subject. Perhaps some members of the Council would offer themselves as sacrifices on the altar of science. (Laughter.) It had been done before, and it might be that the last speaker, who was enthusiastic in the cause of science, would be willing to offer himself. (Laughter.)

Mr. Durrant said he thought that the reason a wasp could withdraw its sting was because the latter had no barbs. (Colonel Walker: Oh, yes; it has barbs, but they are not so pronounced as the bee's.) He did not think bees stung for the sake of stinging. He believed it was the sting that gave the bee its interest and value, and he maintained if it were not for that honey would be of no more value than common treacle. He was not sorry that bees stung, although he was often a victim himself. He once gave a lecture at Fulham, and said something to that effect, when a gentleman got up and said he did not agree with what the speaker had said, for he very much objected to bee-stings. He (Mr. Durrant) was inclined to believe that bees stung more sometimes than at others. On one occasion he had to move a hive for a lady, and transfer frames and combs, just as they were, from one hive into the other. They were golden bees, and had to be conveyed about a mile; the weather was favourable, and there was not much chance of them flying back. In carrying out the transfer he found them extremely vicious, whereas he had always thought golden bees were rather calm and docile. But in the course of conversation with the lady, whom he asked whether she had had a good season, the reply came, "I took a little honey from them yesterday." Needless to say, he ceased to wonder any longer at the ferocity of her stock.

Mr. Hill expressed the indebtedness of the meeting to Colonel Walker for his able remarks on the stings of bees and wasps. He would like to say something in favour of the much-abused wasp. He thought it did a lot of good, as, for instance, in gratifying its appetite for house-flies and green flies; nevertheless, he knew the nuisance they were in connection with bees. Colonel Walker spoke of the hardiness of the wasp, and he could speak for the queen-wasp, for he had once found one embedded in ice. He chopped the ice to release her somewhat, when she began to stir her legs. It was a bitterly cold, frosty day, and he left her on top of the greenhouse. Upon a further inspection she was found to be still living: then a few warm days intervened, and she was gone, no one being able to trace her. He concluded that the ice had thawed and liberated her. That showed how hardy the queens were, and there was a necessity they should be so, as Colonel Walker had explained. He noticed that the Colonel referred to the wasp in the masculine gender, but he thought the females had the greater stings. For his part, he looked forward to his first manipulation in spring with pleasure, as he had almost forgotten what it was like to be stung. He had had a good many stings from swarms, and had always found them to smart longer and swell more at that time. Was it that the swarm carried more formic acid then than usual? He was glad that Colonel Walker did not recommend the obsolete remedy of the blue-bag.

Mr. Salmon said that a professor at a lecture stated that the painful effects of stings were due to certain albuminoids produced by the chemical action in the plant and the formic acid in the bee. There were no doubt certain times of the year when bee-stings were much more painful than at others. If there was less formic acid in the system one time than another, would it not be due to something the bees had visited? Medical men had suggested that the venom was due to what the insects visited. Was it not probable that the severity of the sting was due not only to formic acid, but to something produced by the chemical reaction of the acids in the bee from what it obtained in the plant? It was known in earlier days that formic acid was obtained from ants. Did they have simply the formic acid and not the chemical compounds which seemed to affect mankind when stung by other insects? Was it that the bee was provided with a sting to

defend the honey and thus prevent its race becoming extinct?

Mr. Sander referred to Mr. Hill's remark that stings were worse in the spring. His experience was that they could be endured then more easily; but in the autumn, if a bee-keeper did get stung, he knew it!

Mr. Reid said that from the tentative way in which Colonel Walker had put forward his remarks, they might well discuss this absorbing subject the whole evening, and if light could be thrown on some of the points it would no doubt be of considerable interest to the bee-keeping fraternity. The origin of the bee's sting was pretty well known. It was no doubt developed from an ovipositor, from the tube through which certain insects laid their eggs.

Some insects would use their ovipositors as stings. He was once catching an ichneumon fly on the banks of the Mississippi which was trying with its ovipositor to lay its eggs in a grub in the wood of a tree. While holding it the creature made a hole in his skin by this same instrument. The wound was not poisonous, and nothing resulted. Probably, therefore, the reason why the female stung was because she alone possessed this ovipositor, while the drone, having nothing of the kind, could not sting. There were no geological data showing the gradual development of the bee, as there were in the cases of some other animals. As far back as the Jurassic epoch the bee appeared to have been the same as at the present time. This could be seen by a specimen in the museum at Zurich. It would be interesting were they able to follow the development of the sting and to learn under what circumstances the queen-bee originally laid her eggs by means of an ovipositor. The next point was, What was the material that caused the pain consequent on the sting? One rarely was stung without some pain following, as Colonel Walker said. The composition of the poison had been investigated by scientific men, who were of opinion that it contained two poisons. The statement generally made was that formic acid caused the pain, but he had made many experiments himself, and had come to the conclusion that formic acid did not cause the swelling. He had injected 100 times the amount of formic acid that a bee could, when nothing but pain and irritation followed —that was to say, no swelling. The other ingredients in the poison of the bee, and that which appeared to be the chief cause of the swelling and of the physiological effects of the bee's sting, belonged to the family of albuminoids, now termed proteids. Professor Calmette, who had made some valuable researches on the subject of snake poison, decided that this also consisted of albuminoids, the type of which was the white of egg. Here, again, was evidently a rather curious connection between the composition of eggs laid through an ovipositor and the character of the poison subsequently developed in the same organ. To mention another development in connection with stings, there were other insects which acted in a similar manner to the bee and wasp—that is, injected formic acid into the wound, but no painful swelling resulted. In Brazil certain species of ants would bite, and then turn round and inject into the wound a minute quantity of formic acid, but there were no after-effects as in the case of the bee or wasp. Another question was, Could anything be done to remedy the effect of the sting? Many people were so susceptible to the influence of the poison that one might safely say they would always suffer wherever and whenever they were stung, and, with every wish to become bee-keepers, they could only handle bees when absolutely protected against stings. There were certain portions of the body where a sting was very painful—the cartilage, for instance, or where the circulation of blood was slight, such as the nose and ears, or the shin of the legs, or under the nail. Probably the circulation of the blood diluted and carried away the poison. It was well known that most people became immune to the physiological effects of the poison after a certain number of stings. He had some evidence that a person rendered immune to bee-poison by repeated stings also became immune to the poison of the scorpion. He thought those who were immune to a bee-sting were precisely the same to a wasp-sting. He had been stung a good deal by wasps, but had not suffered. With regard to a remedy, the pain could always be got rid of if the part was rendered insensible. This could be done with cocaine, but especially with stovaine, which was a very strong anæsthetic. An ether spray would also relieve the pain for a time. These specifics would not, of course, get rid of the physiological action of the poison. When their action ceased the pain returned, but lessened. Such powerful drugs could not, however, be put into the hands of every bee-keeper. He had been stung on three occasions by hornets. It was certainly his own fault. He happened to have a nest of hornets at the time, and was making experiments with the X-rays, wondering whether they would penetrate the trunk of a tree, and while engaged in this engrossing task he found that a hornet had penetrated him. Considerable pain was the result, but no swelling. It would be very interesting to get up a comparative series of experiments

on these points. They would clear up vexed questions which were yet undetermined. As he had pointed out, some persons were very susceptible to bee-stings, while others were not, so that great care would have to be taken in the choice of subjects.

(Report continued next week.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

THE HEALTHFULNESS OF HONEY.

[7255.] I thought at first of writing my heading as "Honey is Money," but in this form, although the alliteration may sound better, the subject would be too narrow and circumscribed. Then the greater includes the less, consequently health means wealth. The wisest man the world e'er saw wrote: "My son, eat thou honey, because it is good." The saying has been quoted often before, but a really good thing bears being re-repeated. It carries on its face the impress of truth, while the experience of the ages goes to confirm its accuracy. Mahomet, in the Koran, emphasises the same incontrovertible statement that honey is not only a healthy food, but an excellent medicine of a preventive nature, "a thousand times better" than any concoction of the doctor or dispenser of drugs. Of ancient physicians who had a very high opinion of honey, I may mention Galen and Hippocrates; and Pliny, in his "Natural History" (A.D. 23), writes of it: "Honey is employed with the greatest success for affections of the throat and tonsils, for quinsy, and all ailments of the chest, and also in fevers; but the instances are so numerous that it is impossible to make an enumeration of them." At the very earliest date of which we have any trustworthy record we have abundant proof that honey was highly esteemed both as a food and a medicine, and the very highest praise that could be given to a country desirable as a place of residence for the Chosen People included this sweet—"a land flowing with milk and *honey*." The famous manna is described as "like wafers made with honey."

Honey in olden times formed a much more important and universal item on the breakfast and tea table than it does in modern times. Sir Thomas Overbury, in the sixteenth century, describes a fair and happy young woman as a perfect picture of health, and adds: "The garden and bee-hives are all her physic and sugar, and she lives the longer for it." Dr. Johnson, in one of his tours, is pictured as "breakfasting luxuriously in an old-fashioned parlour on tea, toast, eggs, and honey, in the very sight of the bee-hives from which it had been taken, and a garden full of thyme and other flowers that had produced it"; and in Boswell's Diary it is recorded that even in the Outer Hebrides "the tea and coffee are accompanied not only with butter, but with conserves, marmalade, and *honey*." Many other instances might be given from literature indicative of the widespread use of honey in the olden time, and the decided belief that it formed not only a food but a medicine and restorer of health. Going back still further in history, we find that it was Nature's sugar, liberally supplied at the table of rich and poor. Then those potential draughts of mead owed their existence to honey, which was the base from which they were constructed. Ancient writers praise this generous beverage as if they had no doubt it aided in preserving life and in maintaining strength. Verily, copious draughts of it had a potent force, as many a Viking song in its praise goes to testify. Of the strengthening effect of honey we have emphatic evidence in Jonathan's exclamation, "See how my eyes were enlightened because I tasted a little!"

A food to be healthy must be nutritious and easily digestible, and honey fully meets both of these necessities. On a small scale we see its nutritive qualities amply proved in the hive itself, for does it not form the staff of life to the teeming thousands who inhabit each of these domiciles? How strengthening it is is there exemplified, for on this life-giving and upholding nectar bees live during the long, cold winter months, and that they survive the rigours of such zero spells as we experience certifies that it is a caloric or heat-yielding food hard to equal. Children have a natural craving for sweets, and no better could be given them than this priceless gift of Nature's nectar. Positive proofs have repeatedly been given that in anæmic patients honey is a health-restorer. Where digestion is weak and impaired it corrects the fault and aids natural laws to work a change for the better. In these cases the second point I have made above, that honey is easily digested, makes it an invaluable agent in stomach troubles and those of the other digestive organs. Sugar generally works evil in these cases, but honey, being already digested, is no tax on the

distinctive organs, as it is easily assimilated without giving them any work to do. Many drinks can also be made of honey, in addition to mead, which are very refreshing. What the Germans call honey-tea and honey-lemonade are two excellent temperance drinks, and a mixture of milk and honey not only quenches thirst, but acts as a sedative and soothes the nerves, encouraging sleep in those suffering from insomnia.

The therapeutic value of honey is not yet fully understood or appreciated, but evident signs of a more liberal acknowledgment are being manifested by members of the medical profession. An eminent doctor has lately been experimenting with honey in cases of obstinate diarrhœa, and discovered that in *every case* he was able to stop it and cause a desire for nutrition to supervene. In even severe cases of anæmia it has been found most beneficial in aiding Nature to overcome the wasting effect by strengthening the digestive organs and giving tone to the system. Bad instances of constipation have yielded to the honey cure.

Grouping some of the cases in which honey is a valuable curative agent, we have (1) digestive cases, (2) throat and chest troubles, (3) skin troubles; and some of the various troubles where its use has been found beneficial may be named:—

1. Indigestion, constipation, piles, kidney ailments, dyspepsia, anæmia, appendicitis, nerves, insomnia, headache, gravel, Bright's disease, tapeworm, diarrhœa.

2. Sore throat, tonsilitis, asthma, bronchitis, cough, consumption, croup, lung troubles, hoarseness, teething, infantile sore gums and mouth.

3. Chapped hands, cracked lips, scrofula, burns, scalds, cuts, eczema, ulceration, erysipelas, frost-bites, freckles, boils, sores, rough skin, chilblains, ringworm, tumours.

Honey is prescribed by the Medical Council of Great Britain for use in the following pharmaceutical preparations: Confection of pepper, confection of scammony, confection of turpentine honey and borax, oxymel of squills, and simple oxymel.—D. M. M., Banff.

RESPECTING PARTHENOGENESIS.

[7256.] I sincerely thank you for your kindness in having published my article in your esteemed BRITISH BEE JOURNAL (No. 1,366, August 27, page 344).

Exact and thorough study of sex-determination in the bee is of great importance to our knowledge of the general laws of sex-determination in other animals, the bee being the fittest creature for those observations and experiments. No animal is more sensible than the bee to impressions produced by the manner of hatching and feeding, by temperature, sickness, age, &c. Every circumstance altering the vital power of the mother-bee in the same way influences her brood produced at that time. All the influences weakening the mother-bee at the same time weaken the vital power of her eggs, in this way securing the supremacy to the fertilising sperm-cells in those powerless eggs, which therefore only produce drones.

Every bee-keeper who wants much worker-brood always procures young and strong queens, well knowing that only strong mothers produce many daughter-bees (workers, queens), a fact proving that not the sperm-cell—as is maintained according to the doctrine of parthenogenesis—*but the unfertilised egg itself contains the female sex and female characteristics.*

If the female sex-characters and female qualities were in the sperm-cell, and the male sex-characters in the unfertilised egg—as parthenogenesis teaches*—all bee-keepers should have only strong drones having powerful sperm-cells with strong female sex-characters, and weak mother-bees producing powerless eggs with weak male sex-characters, easily suppressed by the strong female sex-characters of the fertilising sperm-cell.

No bee-keeper follows this rule of parthenogenesis, nor will he be able to do so, if he wants to have workers and to obtain honey, because the bee-keeping practice shows that the *weak queen-bees, although fertilised by strong drones, never produce female brood*, but only drones. On the other hand, *strong queen-bees, although fertilised by weak and small drones derived from fertile workers and hatched in worker-cells, always produce female brood.*† Consequently, the *male sex-characters are contained in the fertilising sperm-cell.* Parthenogenesis, therefore, is in direct contradiction to bee-keeping in practice, and is defended only by words. —DR. MARTIN KUCKUCK, Lucerne, September 18.

RE B.B.K.A. CONVERSAZIONE.

[7257.] Will you kindly allow me to point out one or two slight mistakes in the report in this week's issue of B.B.J. of the recent Conversazione (see pages 422 and 423)? I am stated to have said

* F. W. Vogel, "Honigbiene" (Honey-bee), 1883, pages 178, 190, and 189, 191.

† Professor R. Leuckart has proved that yellow drones derived from fertile Italian workers had fertilised black queen-bees, which then produced bastard bees (workers and queens) of *Apis mellifica* and *ligustica*.

that "some sections at the Dairy Show were covered with propolis." What I really said was that when judging at a show some of the sections were covered with propolis. The quantities of honey referred to should read: "Over 100 lb. to 125 lb. *average per hive* in some cases." One bee-keeper obtained nearly one ton from eighteen hives. [Both statements were taken verbatim from shorthand writer's report.—EDS.]

Planting Trees.—May I suggest that the secretary of the B.B.K.A. communicates with the Board of Agriculture asking that the latter should advise, through its pamphlets distributed to fruit-growers and other persons planting trees, the importance and great advantage of cultivating more lime-trees of both the early and late varieties? Mr. Reid ably dealt with this subject, and emphasised the value of growing the late-flowering lime. I can confirm what he said about its value, as last year I saw bees working vigorously on the late kind in September, which saved a good deal of autumn feeding.

Fertilisation of White Clover.—Darwin, in his "Cross and Self Fertilisation of Plants," gives the result of experiments. He says: "Several plants were protected from insects, and the seeds from ten flower-heads on these plants and from ten heads on other plants growing outside the net (which I saw visited by bees) were counted, and the seeds from the latter plants were very nearly ten times as numerous as those from the protected plants. The experiment was repeated in the following year, and twenty protected heads now yielded only a single abortive seed, whilst twenty heads on the plants outside the net (which I saw visited by bees) yielded 2,290 seeds." Experiments on purple clover had similar results.

Late Honey-gathering.—Many bee-keepers will be interested to know that through the abnormal weather at the beginning of October bees were storing honey in shallow-frame supers. On October 2 I saw supers, which had recently been extracted because bees continued to store throughout September, put back to clear up before winter storing, in which new honey to the extent of about ½ lb. per comb was stored within twenty-four hours. The source of honey was late mustard and sainfoin. Many supers were taken off much too early this autumn, consequently brood-chambers became congested with stores, and very little room was left for breeding. The exceptionally hot weather at the time (72 deg. in the shade at 9 a.m.) stimulated active queens to lay wherever there was room for eggs in the cells.—A. W. SALMON, Cashfield House, Chingford, October 23.

DISCUSSION ON FOUL BROOD ACT (IRELAND).

[7258.] I have read the letters of your correspondent "Cumbrian" (7211, page 374; 7248, page 426) and Mr. Doleman (7234, page 404). "Cumbrian" is disappointed. He has thrown down the gauntlet, "dragged the tail of his coat," and flourished his shillelagh, but the response is poor. How is it this valiant challenge from behind the kopje, "Cumbrian," has not drawn the enemy? Is it because those best fitted to criticise recognise the futility of wasting printer's ink and space in your valuable paper on criticism of a measure after it has passed into law; or is it because "Cumbrian," while dragging his own coat, has dragged with it the coats of his brothers in the craft? Are their heads lost, is their dignity lowered? It is our proud national boast that whatever measure is placed on the Statute-book is administered with justice and equity by people who have their heads screwed on the right way. I am at a loss to imagine why any member of our craft should so draw upon his imagination, and seriously (?) put forward as an argument against a measure, framed for the benefit of bee-keepers, that there is a likelihood of such a measure becoming a danger through maladministration. Why call upon imagination to picture the county of Cumberland or any other county given over to, and laid waste (so far as apiculture is concerned) by, a rabid anti-foul-brood crank, armed with compulsory power, whose head has been blown away and lost by the first whiff from a diseased stock? It almost makes one's head reel to think of it!

When we get the Act passed it will be administered by capable heads, to the greatest good of the greatest number, that is certain.

Yet another reason why "Cumbrian" challenges in vain. There are shillelaghs in Donnybrook still, but they see no enemy; he is in ambush. True, his shots are labelled, suggestive of his locality, but Cumbria is not deceived. She is ready for action, but does not want to come out in response to shots marked "Cumbrian," but discharged from a gun which the search-light *might* reveal under the shadow of St. Paul's.

To be serious, I would recommend would-be critics to leave Ireland and her Foul Brood Act alone; and, as we had enough of Donnybrook in 1904, let there be no brandishing of shillelaghs in the time to come whenever another Foul Brood Bill for England and Scotland comes to be discussed. Probably its advent is not far distant, and the Editors may be able to tell those who are keen on legislation where copies of the 1904 Bill may be had.

The terms of that Bill might be profitably studied and discussed, and the way paved towards an amicable settlement of a very important question. The B.B.K.A. would probably be willing to consider any suggestions or amendments likely to lead to compromise between those for and against a Bill in this country.

New Books.—After a long absence from the pages of the B.B.J., I take this, my first, opportunity of expressing the pleasure I have derived from reading two new books—"Wax Craft," by T. W. Cowan, and "The Lore of the Honey-bee," by Tickner Edwardes. The former is, as might be expected from its author, brimful of valuable information for those who handle or are interested in wax, and stands alone as the only book on this subject. The historical part is of very great interest, and well worth studying. Mr. Edwardes's book is the poetry of bee-keeping. With it by the fire in the long winter evenings the bee-man who loves his craft can, in imagination, live over again the most fascinating experiences of bygone days or get an insight into something new. The beautiful language with which the author clothes his descriptions of the common happenings among the bees fires his readers with some of the enthusiasm with which he is evidently himself inspired. —G. W. Avery, Heads Nook, Carlisle, October 25.

[We wish to apologise for an error which we regret has occurred in "Cumbrian's" letter on page 426, right-hand column, where by substituting two words not only has the sense been altered, but an amusing "bull" has been perpetrated. The paragraph should read thus: "And does it not matter if Clause 1 or 2 is printed first? Well, it is a very old-fashioned habit to let the horse drag the cart, not the cart drag the horse. It generally succeeds best."]

SELLING UNRIPE HONEY.

[7259.] Referring to your article "Creating a Market for Genuine British Honey" (page 418), this is not the first display made in London this year, as the firm I supply made a similar one, of nearly the same size, about two months ago. The flavour of the honey was much appreciated by consumers. A good ripe honey I find sells well, but a great deal of unfair competition is caused by bee-keepers extracting their honey before it is ripe. This increases the crop one can get considerably, but brings down the prices, and large buyers expect to get good honey at the same price as the half-ripened honey.—G. Thomas, Pwllerochan Rectory, Pembroke.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Driven Bees (page 384).—There would not be such a demand for these, if they regularly proved to be of little value. Of course, their prime use is, or ought to be, for heather work, when they may be considered as a swarm with a honey-flow before it. Unfortunately, this flow is uncertain, so that the prospect is not always so roseate as would appear at first blush. Nevertheless, driven bees have their value, and this is fairly priced at 1s. 3d. to 1s. 6d. per lb. before the flow and 9d. to 1s. afterwards. Disputes sometimes arise as to the determination of the correct weight, and whilst the matter would appear at first sight to rest largely upon the good faith of the seller, there are several aspects of it. No one desires to buy sugar syrup worth approximately 1d. per lb. at the rate of the bees, though it should be noted that this price does not fairly represent the cost and trouble of special feeding. Yet the bees must be in good heart on arrival if they are to do good work. For the feeding of travelled and half-starved bees can never compensate for the supposed saving in outlay. So that it is worth the while of the buyer to recognise some necessary apparent loss. Now to what extent should he do so? Suppose the initial load of the bees to be 20 per cent. of the total—that is, supposing each bee to carry one-fourth of its own weight. A loss of this amount would raise the price from 1s. 3d. to nearly 1s. 7d. per lb. Similarly, 15 per cent. loss would mean nearly 1s. 6d. per lb., and 10 per cent. loss nearly 1s. 5d. per lb. But bees do not travel so well with a large load. Apart from the reduced activity and the extra strain upon them, they more easily become heated, and may regurgitate their meal, with disastrous result. So that supposing them to advantageously carry rather less than half the maximum amount stated—say one-ninth of their own weight—the maximum reduction might be reasonably assessed at 10 per cent.

This means that a 5-lb. lot might weigh 4½ lb. on arrival. Now this I would suggest as a reasonable maximum. And the frank recognition of some amount of depreciation should not put a premium upon sharp practice, for it should be insisted that the bees arrive in good condition, fault of carriers, of course, excepted. If they do not, they should be rejected. So that it is to the advantage of the seller also that they should travel well. Hence he should be prepared, if necessary, to share in the matter, and to meet any greater diminution than that suggested above. As to feeding, in the ordinary way and for short distances it is unneces-

sary, although it is unfair to the cottager that the period of driving be unduly prolonged to ensure this. But when circumstances demand it I think that if a small lump of very soft candy, or even a bit of the soiled or broken honey-comb, be securely tacked inside the lid under a bit of suitable sacking, and included in the tare, we should hear of few, if any, complaints of loss of weight in travelling. And, to sum up, if the bees arrive in good time and condition, the buyer should not be unreasonable; whilst, as a matter of business, if the seller desire to build up a regular trade based upon the satisfaction of his customers, he had better give good weight, and it is unlikely that the course will ultimately spell loss to him.

Observatory-hives (page 385).—Flat combs are essential, but this method of obtaining them is open to the objection that there is a decided liability to brace-combs. It would also be better to have them right from the first. For exhibition purposes they should, to my mind, be built between dividers. The dividers may be about shallow-frame depth, and cut away in the middle portion of the under edge to correspond with the outline of the brood-nest. This gives them the appearance of an arch, and, whilst they divide the honey, they do not separate the brood, and a very normal comb may be obtained. The third brood-comb is a likely one for the purpose.

Observation of Queen (page 385).—The object of these highly artificial hives is educational, but I think that they often fail of their purpose at shows. I am struck by the numbers who gaze with unseeing eyes at an apparently aimless turmoil of uninteresting insects, which fail to explain their seemingly purposeless movements, many of which are indeed merely endeavours to escape. But a good view of the queen alters the case, for there is generally an orderly throng about her. She is, however, often difficult of discovery, and I see no objection to a spot of paint upon her thorax to aid in the task. A small card might announce the fact and its *raison d'être*. I believe that more intelligent interest would be aroused, much time saved, and many more spectators would get a glimpse of "her mothership."

South Africa (page 387).—I hardly think that it is fair to say that the B.B.K.A. forbids, for it is prepared to accept any suitable forthcoming examiner. In the nature of things, the third-class examination can only be conducted by an examiner who has already passed the test. Well, well, if this should after all be not feasible "A Cape Bee-keeper" must make his pile and have a trip to the old, slow-going country, where we shall all be pleased to see him, and, if necessary, ask him all the difficult questions in the world of bees.

Isle of Wight (page 387).—This looks like confirmation of our Cornish friend's theory, mentioned by Mr. Farmer, to the effect that fresh air is beneficial. But if this be so, and it be eventually proved that the disease or sickness is non-pathogenic, its occurrence may be due, directly or indirectly, to conditions of moisture, an excess of which is known to be detrimental. Better weather conditions may be responsible for improvement, but, failing absolute proof of this or any such mechanical cause, it is to be hoped that every precaution will still be taken.

Swarming Experience (page 387).—May I add to the explanations the theory that this is a lot of driven bees which has refused to remain hived? I suggest that a neighbour has hived such a lot earlier—too early—in the same day, and they have decamped, with the result stated. I think that Mr. Dyche may rest his mind in peace about his own stocks, but we should be glad if he would ferret out the real explanation.

Queen Introduction (page 391).—To be quite "orthodox," this operation should have been done at night, when the queen would hardly have taken flight. A simple method, which I employ, is to use a safety-match box, and after the puff of smoke to slip this under the quilt face down, slide it open, and leave it. "D. M. M." will find an interesting article in the current issue of *Gleanings*, which deals with the orientation of bees; but it is interesting to speculate that entrance-signs of queenlessness may be even more easily detected by a homeless queen than by the best of bee-keepers.

Queries and Replies.

[3825.] *Space between Inner Body and Outer Case of "W. B. C." Hive.*—As there are so many different sizes of the so-called "W. B. C." hive in manufacture, and the spacing is anything from $\frac{5}{8}$ in. to $1\frac{1}{4}$ in., I am anxious to know through your valuable journal (of which I have been a constant reader for eighteen years) (1) what is the proper space between outer case and inner brood-body for general use for the well-doing of bees. 2. For the proper ventilation. 3. For the advantages in manipulating. 4. For the placing of quilts, &c. Will be thankful for any advice. I send name for reference, and sign—SPACE, October 19.

REPLY.—The size of body-box is $16\frac{3}{8}$ in. in width and $17\frac{11}{16}$ in. from front to back, outside measurements. The inside of outer case is 18 in. across front and 19 in. from front to rear. This gives quite sufficient space for all requirements, but

there is no harm in increasing it, although there is no advantage in doing so. Full directions, with dimensions, for constructing a "W. B. C." hive will be found on page 54 of the "British Bee-keepers' Practical Note-book."

[3826.] *Liquefying Granulated Honey.*—Having left extracted honey in ripener, owing to absence from home the same has candied in the meantime. Will you kindly state the best method of liquefying same in order to bottle it?—WHARFEDALE, October 19.

REPLY.—Get a boiler or other vessel—such as a fish-kettle—large enough to hold the ripener. Place two strips of wood on the bottom and on these stand the ripener. Pour water into the outer vessel so that every part of the ripener is surrounded by it, then heat it by means of a lamp or otherwise to a temperature not exceeding at any time 160 deg. Fahr. until the honey is all melted. A lower temperature will do, but it will take longer to melt. A higher temperature would destroy the flavour of the honey.

[3827.] *Beet-sugar for Bee-food.*—In the "British Bee-keepers' Guide Book," on page 111, I read the following:—"The bee-keeper is cautioned against using beet-sugar for syrup, as being injurious to bees, especially as winter food." As all the sugar manufactured and sold in this country is obtained from beet, and it is only possible to get cane at the chemist's, and then at a very high price, I should be very pleased if you would let me know what I had better do for feeding syrup under the circumstances. I am a subscriber to the B.B.J., and hope that you will lead me out of my difficulty through the columns of that journal.—G. A. FLOOD, Hughesovka, South Russia, October 13.

REPLY. — Beet-sugar contains potash salts which it is very difficult to entirely get rid of in the refining. It is these salts that cause it to be injurious to bees for wintering in this country. In your case, being in a drier climate, if cane-sugar is not procurable we should get the most refined sugar that is to be had in white crystals, taking care that it is not artificially coloured, as beet-sugar very frequently is.

[3828.] *Naphthaline in Hives.*—I had the mischance to get foul brood into my apiary last spring. I took what I hope from results were drastic measures, and, of course, have been very careful to use preventives in all hives, but find it a trouble to keep naphthaline in a strong stock, as it quickly evaporates, and when the pieces get small the bees carry them out. I am afraid that the supply that was put in when the bees were packed down for the winter will be gone long before the winter is over. Do you think it would be effective if in a month's time I put two or three balls on the top of frames at the back of hive? Thanking you in anticipation. — ALFRED STRATTON, Wilts, October 19.

REPLY. — The naphthaline will not evaporate so rapidly in winter. If you cut each ball in half, the pieces can be slipped between the frames at the back of the hive by lifting up the end of the quilt. You should introduce the naphthaline now rather than disturb the hives in winter, and if it has all evaporated when you make your spring inspection put more in at that time.

[3829.] *Drones in Worker-cells.*—I have purchased an Italian queen-bee, and have had her some two months. She has laid a large number of eggs and a lot of young workers have hatched out, but in every patch of worker-brood there is here and there an odd drone reared and hatched in a worker-cell, and this process is at the present time being repeated, as I have been feeding them to encourage breeding. It was only a small nucleus when I put her in, and now has built up into a good stock. What I desire to know is whether you think there is any defect in the queen which will render her undesirable to head a colony for next year, or whether she is all right, as she has proved very prolific, and except for this peculiarity I have no fault to find.—CHAS. F. D. SMITH, Hockley Heath, October 20.

REPLY.—Your queen appears to be a very prolific one, as you have been able to build up a good stock from a nucleus in two months, and as she only lays an occasional drone-egg we should certainly keep her in the colony for trial next year.

Notices to Correspondents.

G. R. MORLEY (Ansley).—*Queen Cast Out.*—The queen is an old worn-out one. If you are certain she has not been replaced by a young fertile one, your best plan is to introduce another; but you must make sure that there is not one in the hive already.

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**** Some Letters, Queries, &c., are unavoidably held over till next week.*

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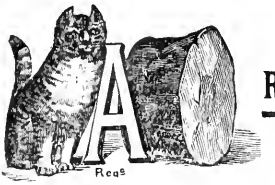

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THE

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR

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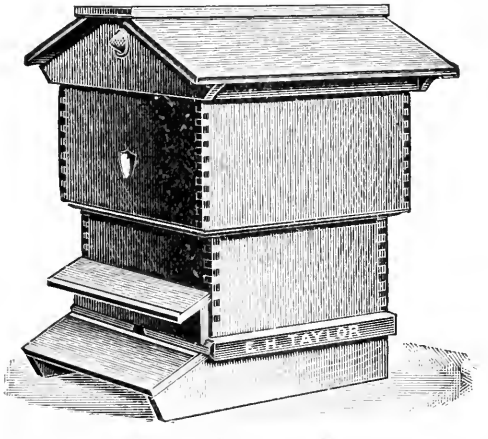

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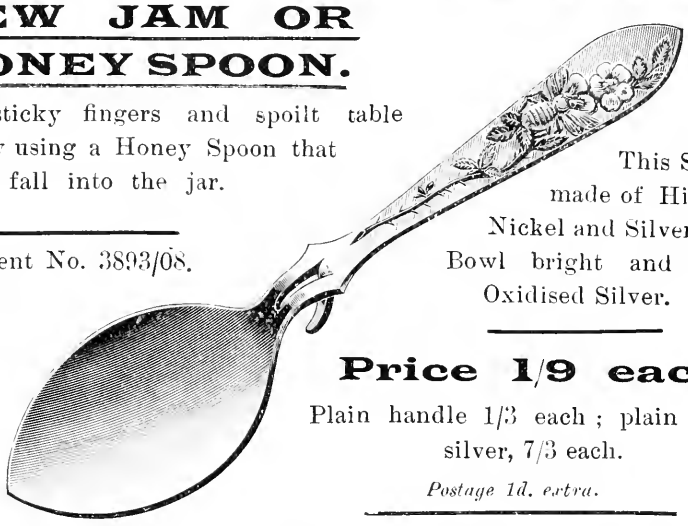

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BRITISH BEE-KEEPERS' ASSOCIATION

CONVERSAZIONE.

(*Continued from page* 435.)

Mr. Sander said he never could get immune from bee-stings. The initial pain lasted perhaps only for a few minutes, but twelve to twenty-four hours afterwards the affected spot began to swell and burn, and continued perhaps two to three days, gradually decreasing till it disappeared altogether. He agreed that the effect was much less in the spring than in the autumn. He always carried vulcanite tubes filled with strong ammonia, which he poured on the wound at once; but if the sting got home his flesh invariably swelled in spite of any remedy.

Mr. Paul remembered one morning manipulating some stocks, when the bees wreaked their vengeance on his knuckles and wrists, but the results all went off after a short time.

The Chairman thought there had been a very interesting discussion. Mr. Reid had treated the physiological aspect of the question with his usual lucidity. He (the Chairman) remembered on one occasion seeing a wasp cut in half while sucking at some syrup. She, nevertheless, went on feeding, until a large drop of syrup was formed at the waist, and seemed actually to enjoy being able to take so much of it. With regard to the poison in the queen-bee, he had only been stung once, and that was when he put a queen in his mouth for a moment, because he had nowhere else to place her. The wound swelled up, which it would not have done if there had been no poison there; the swelling was as much as if the sting were that of an ordinary bee, but the pain was not quite so serious. His experience was that, being impregnated with bee-poison, the stings did not now affect him so much as when he was young. If stung when manipulating, it was his custom to put a little honey from the hive he was manipulating on the affected part. He found that prevented other bees from coming to sting; it also got rid of the smell of the poison, and covered up the wound in the way that had been suggested by one or two speakers. The bees would certainly flock round, but it was to lick up the honey, which made them pleasant and agreeable. With regard to hornets, he was glad to hear that Mr. Reid had not suffered. He must have a much stronger constitution than most other people. He (the Chairman) knew the case of a man who was stung while driving near Hastings. A hornet happened to fly across and sting him on the neck. He there and then dropped out of his dog-cart into the road. He was taken to the first cottage, where brandy was administered, but the effects of the sting were so severe that this gentleman was a year and a half in a condition of suffering, and never properly recovered, although he had been a strong man before that date. So from this it was evident that a hornet's sting was a terrible matter with some people. He (the Chairman) would not, much as he loved science, advise anyone to try the experiment of becoming voluntarily stung by a hornet. With regard to rheumatism, he had before him a letter on that subject from M. Osmaston, who was unable to be present, but who wrote as follows:—"I should have liked to hear, among other things, the discussion on 'Stings.' Is the opinion gaining ground that the formic acid is an antitoxin to rheumatism? For some years I suffered considerably in my back from rheumatism. Several years after I began keeping bees it left me, and I have had no rheumatic pain now for some years. Certainly stings have affected the system to that extent that I do not mind a sting as I used to, and feel them very slightly after the first incision. From what I heard yesterday I believe it is taken up by some of the medical profession, and that formic acid is injected. A gentleman who told me this assured me he had heard of one who had been cured in both his legs in this way."

That was only one instance out of a number he could mention in which rheumatism had apparently been cured by bee-stings. It was not every case that could be cured, but he thought the medical profession recognised that in certain cases formic acid was useful for that purpose; at any rate, in Germany, Switzerland, and America they were using it. Mr. Dadant, the famous bee-keeper, was free from rheumatism while he was engaged in apiculture. Having arrived at a certain age, he gave up his business to his sons, and the rheumatism returned. He was therefore obliged to start again, and now he simply amuses himself with bee-keeping and in getting stung occasionally, since which the rheumatic pains had left him again. It was quite true that both the bee and the wasp stings were barbed, but the barbs of the wasp were much smaller than those of the honey-bee—in fact, they were only one-third the size, and could easily be withdrawn. Even the bee could draw her sting out by twisting round, if given sufficient time to do so, which was usually impracticable. In conclusion he thanked Colonel Walker for his able and interesting remarks, and also all those who had joined in the discussion.

Colonel Walker said he had very little to add in reply, the ground having been so well traversed by the speakers, who had given the meeting the benefit of their observation and experience. He was glad that Mr. Cowan verified his view that the barbs of the bee were a great deal more likely to retain their hold than those of the wasp. One gentleman had stated that the sting of a bee from a swarm was not so bad as the sting of a bee coming late to join the swarm. Perhaps the explanation of that was that the bees in the swarm had taken plenty of honey, and were consequently in a state of good humour and physical distension; while the belated bee, having had no time to fill herself, was hungry and cross, and consequently stung all the harder. He believed that was the reason. In his remarks he had spoken of the wasp in the masculine gender. Perhaps he had in his mind its predatory habits, but he could imagine female banditti, and this was certainly fulfilled in the case of the wasp. He would recommend Mr. Crawshaw to use vaseline on any part of his body that he could not reach with his mouth to suck. It would no doubt often be more convenient to do so, and equally efficacious.

The Chairman announced that Mr. Sladen was not able to attend the meeting, but had sent a short paper to be read on the subject of feeding bees, with which they would now proceed.

Mr. Pugh proposed that as the hour was late Mr. Sladen's paper be postponed to a future occasion, or perhaps it might be inserted in the B.B.J. The late lamented Mr. Weston used on these occasions to make a short commentary on the Dairy Show and incidents in connection with it. Possibly there might be something to say that evening thereon which would be of more interest at that moment than the reading of a paper written by an author who was not present.

Mr. Skevington seconded the proposal, which was put to the meeting and carried without a dissentient.

Mr. Hill was desirous of hearing the views of the meeting on the subject of bee-insurance. He did not know whether his knowledge was a little at fault, but he believed the policy stated that bee-keepers must insure all their stocks at 1d. each. Many people in the summer-time were in the habit of rearing their own queens, and besides having ten or twelve hives of bees, might perhaps have ten or twelve nuclei. He knew someone who was insured for twelve stocks, but had twenty-four if the nuclei were counted. How would he be dealt with? Would he get compensation based on the twelve or the twenty-four? It appeared that the question had been asked in the B.B.J., but the reply came that the Editors were not open to answer questions of law. A meeting of this description might be able to settle it, or the matter might be put before the Council of the B.B.K.A. The question simply was: If he insured ten stocks of bees and had ten nuclei, would he only get half compensation? If so he had better always insure for double the quantity of hives he possessed. Many bee-keepers were not cognisant of their exact position in the matter.

A gentleman remarked that he did not know what the law might be, but as the cost of insurance was only 1d. per hive, ought not every bee-keeper to insure well over the number he possessed and thus make provision for nuclei?

Mr. E. Walker said he had twelve stocks and insured for twenty-four. A claim he had made was settled within a week.

Mr. Hill said that if it was considered that nuclei must be regarded as stocks from the point of view of insurance, then he thought bee-keepers generally should be warned to that effect. He himself, in order to be on the safe side, had insured to the extent of double his stocks.

The Secretary stated that all the rules and regulations regarding insurance had been published more than once in the columns of the B.B.J. No claim in any one year could be for more than £30. It seemed to him that if a queen and a few bees were separate and located on a different spot from the rest they must be regarded as a separate and distinct stock for the purposes of insurance.

Mr. Hill was quite satisfied with the answers given, and the next point he wished to raise was this: he thought they should all endeavour to do their duty to future generations of bee-keepers, and he had therefore recently been advocating in the local Press the planting of trees and flowers which were specially suitable to apiculture. He had been asked if he was willing to pay for the luxury as a bee-keeper, but his idea was that the bee-keepers to come would be benefited, just as he and his contemporaries would have been if their ancestors had planted limes, sycamores, &c., in profusion. Therefore his suggestion was that the different bee-societies should endeavour to induce the officials of parks and arboretums to plant these trees, which had the double advantage of being useful for bee-culture as well as ornamental.

Mr. Reid would like to support the proposal that had been made. Considerable sums were annually spent by different Councils in planting trees, therefore why not introduce those which, besides being ornamental, were useful? Groves of lime trees had been planted up the main road of his village; they did not hurt anybody's interests, and might promote house let-

ting, especially in the summer, when Londoners visited the neighbourhood. Six or seven years ago he advocated planting the late-flowering lime tree, and this year he had secured a lot of honey from it. That meant that the season was nearly doubled, because these limes blossomed when other blooms were over. With regard to the sycamore, his bees went into a neighbour's plantation and fertilised all the seeds, which were blown over into his (the speaker's) garden, causing him a lot of trouble in pulling up the young plants afterwards.

Mr. Silver said that the Croydon District Association had already taken the very step just advocated. It had sent a circular letter to the Croydon County Council and Croydon Rural District Council suggesting the introduction of various trees and shrubs specially suitable to apiculture in all the open spaces round about, such as Mitcham and other commons, &c. Their secretary received a reply stating that the matter had never been brought to the notice of the Councils before or they would have been pleased in the past to have carried out such recommendations.

Mr. Hill pointed out that before the question relating to the planting of trees suitable for apiculture was disposed of he would like the voice of the meeting taken thereon. He therefore moved: "That this meeting desires to suggest to the B.B.K.A. that their Council should discuss the matter, and, if practicable, find some means of spreading knowledge as to the trees and shrubs suitable for the promotion of bee-culture, and recommend the planting of the same wherever possible."

The resolution, having been seconded by Mr. Reid, was put to the meeting by the Chairman, and carried unanimously.

Mr. Pearman thought the opportunity ought to be taken to say something about the prizes at the Dairy Show. For his own part he did not complain of the B.B.K.A. or the judges; but he was very much dissatisfied that in a class where there were five entries only one prize was awarded. There were some beautiful heather sections in this class at the show (his own amongst them), but only one prize was given. He took his bees a distance of twenty-two miles to obtain the honey, and every section shown on the bench cost him 3s. or more; yet these were passed over. His idea was that, no matter what the quality might be, there should be more than one prize given. It seemed to him that it mattered not how many entries there were, the authorities were prepared to take the entrance fees without offering additional prizes. He thought, and so did many others, that there should be more liberality in the bestowal of prizes, which would tend towards the better success of the show. He would like the meeting to hear some of the complaints that were made by disappointed exhibitors.

Mr. Skevington, referring to Mr. Pearman's remarks, asked whether anyone was in charge of the exhibits that day at the Dairy Show. (Mr. Herrod: "Yes.") He noticed that there were five exhibits of granulated honey—one "first" and three "highly commended" out of the five. Why were not a second and a third prize awarded where there was little or no distinction between them? Such a decision offered no encouragement to competitors, and accounted very much, in his opinion, for the vacant show benches. Every exhibitor should be encouraged, and not thwarted. He would like to know what rules were laid down for judging wax. Did they involve quality, colour, or method of flavouring? Why was the wax exhibited in boxes, and why were the number of pieces not specified? Again, what were the points as regarded sections—quality of honey, colouring of cappings, or what? He asked this because he saw no section cut open. He further begged to be told what constituted a trophy. The first prize was awarded to a pale, sickly-coloured honey which he naturally imagined was from sainfoin. From an educational point of view that in his opinion was absurd, because there was very little honey gathered of that description. In his humble opinion a display of honey should embrace a complete collection of the various grades of honey in every conceivable shape of receptacle for exhibition. It was unwise to encourage this colourless honey, as bee-keepers found the public were sceptical about honey of any other colour when once they had been educated up to certain ideas on the subject. He also thought that stewards at shows should not be permitted to exhibit, and for the sake of their own personal dignity one would naturally imagine that they would refrain from doing so, especially at shows which were looked upon as the premier ones of the country. He was afraid, under present circumstances, they would not fulfil the object for which they were intended. Would it not be as well, if the B.B.K.A. had a man in charge of the exhibits, to explain them to the public on the spot? Lastly, why was the entrance fee to the Dairy Show 2s. 6d., as against the 1s. charged, he believed, at all other shows?

Mr. Crawshaw thought that the subject raised was a matter more for discussion in Council than at a meeting like that. He was strongly in favour of awarding prizes

if the exhibits were deserving of them. In the instance of granulated honey at the show he examined all the samples sent up, and would, if he had been judge, have made the same award. The awards seemed to him perfectly right, but the pity was that there could not be another prize.

Mr. Pugh went to the Confectioners' Show, and asked Mr. Elliott how it was that several honeys had been staged in the wrong class, and he was told that such exhibits had been disqualified. He (Mr. Pugh) thought it was only fair to the exhibitor that he should be informed that his particular exhibit, on account of non-compliance with the conditions of the schedule, had not been allowed to enter the competition. It was a great fault at any show, even although the honeys in question might be better than that which took the first prize, if they, competing in the wrong class, were allowed to be staged without a disqualification notice on them.

The Chairman explained that the B.B.K.A. had nothing at all to do with the matter complained of, and had no right in any way to interfere with the arrangements. The Dairy Show was held under the rules of the British Dairy Farmers' Association, which appointed its own officials and judges, and settled the amount of entrance fees and regulations as regarded prizes. The judges had books given them with the numbers of the exhibits and stating the number of prizes to be awarded in each class. The exhibitors made their entries knowing that the rules stated that no second or lower prize would be awarded if there were fewer than six entries, and no third or lower prize if there were fewer than nine entries. The judges did their best by commending when they did not feel justified in recommending more prizes.

The Secretary said that one rule of the Association authorised the judges to withhold prizes or to recommend additional ones subject to confirmation by the Council. As a matter of fact the judges did recommend an extra prize in one class, and the Council have confirmed it.

Colonel Walker said it would be greatly to the prejudice of bee-keeping altogether if the exhibitor was not informed when he had failed to conform to the schedule; there certainly ought to be a disqualification ticket on his exhibit. At the same time he thought no one was in a position to judge so well as the appointed judge, who could examine carefully every exhibit, and therefore he (the speaker) was inclined to deprecate the opinions of visitors when put in antagonism to those of the judge, who had the best materials at command for coming to a decision.

Mr. Pearman hoped the members would not think he was complaining of the judges. He considered, however, that the latter could bring some influence to bear in order to increase the prizes in cases where there was little or no difference between the excellence of the exhibits. He was satisfied that the award was quite right in the candied honey class.

Mr. Herrod admitted with regret that at the Confectioners' Show the disqualification notices were not put up. He did not have time to be in the Hall as long as he would have liked to effect that. It was the usual practice to put up cards with the words on, "Not according to schedule," and at other shows this had been uniformly done. In addition to that it was the custom to write to exhibitors to the same effect; and he would like the members to see some of the "blackguarding" letters he had received in reply from competitors. There were no thanks for anything done on their behalf, not even for the penny stamp spent in giving them information.

Mr. Pugh wished to avoid all personality, but would nevertheless like the feeling of the meeting in regard to this matter put on record, and he would therefore move: "That it be a recommendation from this meeting that at all future shows disqualification cards be put on all exhibits that are shut out of competition owing to non-compliance with the rules, and that such cards be returned with the exhibits."

Colonel Walker seconded the motion, which was carried unanimously.

Mr. Herrod said they were recommending something to be done which was regularly done already, as a rule. Other years, and also this year, he had written to the disqualified exhibitors.

The Chairman showed a new queen-excluder which had been sent by Mr. A. H. Wilkes, who claims that it allows the bees to pass without any hindrance, that more bees could pass than through a zinc excluder, and that it could not buckle. It is made of parallel wires kept at the proper distance apart to prevent a queen from passing through, and there is no flat surface to be sealed down as in excluder-zinc.

He also showed a new method of fixing foundation devised by Mr. H. Potter. One frame showed the way of fixing and the other a worked-out comb that had been in use some time. The sheet of foundation is placed in the groove of the device used. This is a piece of thin zinc bent over so as to clasp the foundation along the edge. The device is then inserted in the saw-cut and forced in.

In this way the inventor claims that the top-bar of frame is strengthened without adding to its thickness, and as the foundation is covered by the metal wax-moth is excluded from the saw-cut.

Mr. Seadon showed some combs taken direct from a skep, the peculiarity of which was that in the case of one or two of them the cells on one side were built correctly—that is, with the apex upward—while on the other side they were formed in the opposite way—namely, with a flat top.

The specimens were passed round for inspection.

Mr. Abbott, jun., exhibited Messrs. Abbott Bros.' well-known honey spoon with a long handle, so that the bottom of a 1-lb. jar could be easily reached without soiling the fingers. He also exhibited an ingenious manipulating table which was easily adjustable, and could be folded with one hand.

A vote of thanks to the Chairman brought the unusually lengthy proceedings to a close.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

THE NECESSARIES OF BEE-MANAGEMENT.

[7260.] How often do we find people who start bee-keeping with no appliances except the box—dignified by the name of hive—which contains the bees, and who yet expect to get a harvest of honey with little trouble in the shape of manipulation! The first step to successful bee-culture is the use of a hive which can be easily manipulated with the maximum of comfort to the owner and the minimum of disturbance to the bees. Two other things absolutely necessary to the novice are a smoker, or its equivalent, and a veil, the outlay for which will be amply repaid the first time the necessity arises for their use.

A short time ago I was requested to examine a hive the history of which shows how *not* to begin bee-keeping. The hive in question was tenanted by a swarm of the current season, which had been given to the owner by a friend. The swarm arrived in a lard-bucket, which was inverted on a box placed bottom up in the garden while the local joiner made a hive. Some ancestors of this joiner had kept bees, and a relic in the shape of an old hive was unearthed as a pattern for the new one. This hive took five days in the making, while the swarm in the lard-bucket was revelling in a splendid honey-flow from white clover. On the evening of the fifth day the local "clever man among bees," with the assistance of the amateur hive-maker and the owner of the swarm, essayed to transfer them from the lard-bucket to the new frame-hive. Standard frames had been secured by the manipulators, and fitted with foundation to the best of their ability. The local bee-man, like his forbears, disdained the use of such new-fangled toys as a smoker or bee-veil, and considered their use to be ample evidence of lack of pluck or knowledge of bee-craft, and derogatory to his profession. A whiff or two from his tobacco-pipe was his method of subduing, and a veil hindered the use of this simple appliance. In this manner the bees in the bucket were attacked, and preparations made for the transfer. It, however, turned out to be rather a difficult task with such primitive appliances, and ended in a victory for the bees and the ignominious retreat of the operators. Five days had been long enough for the building of combs and storing honey in them, and the bucket was soon a seething mass of angry insects, broken combs, and spilled honey. Quieting the infuriated swarm with so simple a thing as the pipe was out of the question: the assistants fled, and after dumping the lard-bucket, bees, and combs on the top of the empty frames, the man with the pipe followed them to the nearest cover as speedily as possible. Not till after darkness set in was the furious swarm covered up, bucket and all, just as left earlier in the evening. They were not disturbed again for months, and then only by chance were they examined by the writer. A good friend who visited the owner advised him to write to the hon. secretary of the bee-association, enclosing a subscription and asking for assistance. He was wise enough to take this advice, and, to make a long story short, I went on a fine October day to examine the stock, and found them on ten standard frames, hung in a huge box which allowed $1\frac{1}{2}$ in. between the end bars of the frames and the hive-walls, with several inches space under the frames, which was full of comb and more or less stored with honey. To crown all, a wooden lard-bucket, containing a confused and broken mass of combs and still occupied by the bees, was firmly fixed on the top. The difficulties in manipulating a stock in this condition can be more readily imagined than described, but how easily all the trouble and waste might have been saved if the owner of the swarm had in the first instance consulted some capable

up-to-date bee-keeper, who would have advised him what appliances were necessary and shown him how to use them. The result might have been a season's enjoyment of a fascinating hobby and a nice harvest of honey, instead of having to pay for the making of a useless hive, the waste of a season's surplus, the slaughter of a large number of bees, and a severe stinging to start with. The moral is clear: Start with a supply of the necessaries of the craft.—G. W. Avery, Heads Nook, Carlisle.

UNITING QUEENLESS BEES.

[7261.] Mr. Silver (7250, page 427) has stumbled upon a safe way of uniting which he does not remember having seen in any work upon bees. He may, however, be interested to learn that I pointed out in "A Modern Bee-Farm," 1888 edition, the fact that the most pugnacious bees, if first made queenless, would readily unite after they had made the discovery of their loss.

Perhaps Mr. Silver's experience with bees is not so recent but that he may already have "stumbled" upon the same information in the 1904 edition, page 25, where it is also shown that the queen to be retained is to be returned in the evening. This may be done by my plan of direct introduction or fasting method, or by using any cage which, as Mr. Silver says, needs no further attention.

Novices are particularly given to blundering over the matter of uniting, but that there may be as little risk as possible I have always made it a point of advising the uninitiated to remove the surplus queen (or queens) three days before attempting to unite. If the union is then carried out (third evening) the stock or nucleus retaining its queen will amalgamate peaceably with the queenless bees, and the said queen need not be caged. But, as I have already stated, there is nearly always an element of uncertainty in the case of the novice, and he cannot do better than place the queen in the tubular perforated cage which I introduced in 1887. After inserting the queen without handling her, the open end of this tube is pressed slightly into the sealed honey near the top-bar in a diagonal direction, leaving the upper end dry for the queen to move in, when within a few hours she will be out safely parading the combs. The length of time it is desired to keep her confined may be determined by the greater or less extent to which the cage is pressed into the comb.

The bee-keeper who is not an expert may also be glad to know that when bringing the stocks together for the final operation he may leave the frames of each lot uncovered for a few minutes after smoking and while he is confining the reserved queen, clearing away old landmarks, and setting up a distinguishing board towards the entrance of the hive to be retained. The combs also may be parted so that the bees do not hang together, thus letting the light in among them and unfailingly causing the bees to gorge themselves with sweets.

Then in contented sisterhood the whole may be made into one happy family simply by alternating the respective combs of bees; or more surely by shaking off the bulk of the bees from the combs into the permanent hive, not forgetting to drop a few at the entrance the more readily to collect the flying bees. Even the novice will hardly need to be told that these operations should be carried out when fairly warm, and in the robbing season always towards evening. Even if there should be room after adding additional combs, there is no object in leaving the combs wide apart after uniting. The union is assured already, and those who advise leaving the united combs and bees apart until the following day forget that the moment the quilt is on the bees are joined in festoons between.

Where full colonies are to be united, and one stock placed bodily over the other, after removing one queen, I have often had occasion to recommend a sheet of newspaper to be placed between the two, first stabbing a few ¼-in. holes through the paper. It gives confidence and safety to the novice, and though Dr. Miller, of Marengo, Illinois, appears to adopt the plan without the holes, I do not consider experts have much need to follow this plan in either form.

The tubular queen-cages mentioned above are 2 in. long by ½ in. in diameter, and may doubtless be obtained of most metal-workers in the bee-trade. I am unable to supply these or other miscellaneous articles.—Saml. Simmins, Heathfield, Sussex, October 31.

ISLE OF WIGHT BEE-DISEASE.

[7262.] No doubt you are interested in the question of the disease which has worked so much havoc to bees in the island of late, and which has been discussed and commented on in the Bee Journal.

Having come to reside in the island early this year, I thought I should like to have a hive or two, but on making inquiries locally as to supply, I was apprised that a disease had taken hold of the bees in this part of the island, and that nearly all were dead or dying, and that it was useless to attempt to keep bees. My curiosity as to what this epi-

demic has really been caused by was thereby excited to an extent which has frequently set me inquiring, but not until this evening have I been able to elicit any intelligent explanation of what might have worked this deadly ruin, and in this instance there is *absolutely no doubt* in the mind of him who enlightened me on the subject, as he was himself a loser of about thirty stocks.

This man is confident that it is a case of poisoning as far as his own bees are concerned, and might it not have been so also in the case of others?

The poisoning occurred as follows:—A weed-killer was advertised for destroying a certain plant (I do not remember the name) with a yellow flower, which in some places grows in great profusion amongst corn, &c., and which is looked upon as a great pest by farmers.

Now it appears that some of the local farmers (a name or two were mentioned) used this specific on the afore-mentioned plant (or weed), and as the flowers of this particular weed have a great attraction for bees, it is thought they gathered honey from flowers of the plants which had been sprayed with this "killer."

In the case in point thousands of the bees were observed to have dropped on their return flight, and the direction indicated that they were returning from the poison-sprayed fields. The bees appeared to be in a drowsy stupor when examined, and, following the direction above referred to, they could be gathered almost by the handful in some places.

The question in my mind is, Might not something of the kind have occurred in other parts of the island? If such is the case, I think some action to stop spraying whole fields, as in the case referred to, ought to be initiated, and I thought you, Sir, might make further investigation of the matter.—R. Shannon, Freshwater, October 15.

[No doubt many cases have been attributed to the Isle of Wight disease that have nothing whatever to do with it. The above appears to be such a case, and we will draw the attention of the Board of Agriculture to it, as they are making investigations into the cause of the mortality among the bees of the island. From recent reports the epidemic seems to have died out, and bee-keepers are making a fresh start.—Eds.]

LARGE "TAKES" OF HONEY.

[7263.] I notice in your issue of October 15, under the heading of "Suffolk Bee-keepers' Association," it is stated that in some cases 200 lb. of honey has been taken from one hive. Does not this seem rather far-fetched (not the honey, but the statement)? At any rate, it appears to me to be gloriously painted up, and if the truth, I for one should like to know the mode of procedure. I have kept bees now for eight years in different parts of the country, besides having taken the management of several other people's bees, and the best take I have dealt with has been seventy-one sections. Of course, there are several ways of securing a large "take" of honey, such as robbing one hive of all its brood to strengthen another, which to me is much like "robbing Peter to pay Paul," if both hives should be strong enough to gather surplus singly. However, allowing for this method, it seems an exceptionally heavy yield.

Probably Suffolk is *the* bee-county; if not, then someone has the key for honey-production. Perhaps some of your numerous readers will give a few figures of their best "takes." I have during the last few years set about a dozen friends up in apiculture, and I am afraid if they hear of such a large "take" it might frighten them to handle such a quantity.—H. Wilcox, Olton.

BEE-KEEPING AS A BUSINESS.

[7264.] The question has often been asked in the B.B.J. lately whether bee-keeping should be depended upon alone or practised in addition to some other business. Now, I am of opinion—and it is the opinion of a man who has kept bees over twenty-five years—that it is impossible to work a good-sized apiary and to run another business or profession as well. One or the other must suffer from neglect. It is true that this is done to some extent. I myself know certain business men who keep twenty to forty stocks of bees, and by dint of great energy and some self-sacrifice at busy times a few make the thing a success, whilst others, leaving their bees more or less to themselves, are content with what honey they can obtain. But I feel quite certain that if a man keeps, say, 200 hives it will take him all his time in the busy bee-months—April to October—to properly look after them, especially if he goes in for such additional work as spring stimulation, queen rearing or selling, nucleus-forming, or artificial swarming, followed in the autumn by bee-driving to balance winter casualties or for increase, and for autumn feeding. Then follow the finding a market for and packing of his honey—no light matter—and repairs to and repainting of hives.

If the business man hires an expert for the above busy months, then the matter is simple enough; but the expert, if he is an energetic and good-tempered man (I mark the latter trait, because an

irritable expert will spoil the temper of a whole apiary), should be, and is, worth a shilling per hour, and this, of course, takes away from the profits. I find that two men working together amongst bees can get through more work in one day than one man by himself can do in two days.

I am of opinion that in a good honey district apiaries might be placed alongside or near to a good road, at a distance of three or four miles apart, to an indefinite number, or rather perhaps to the number that the bee-keeper feels himself able to manage. And to that end, and for the above-mentioned reasons, so convinced am I as to a hopeful future for bee-keeping that I am now seeking a partner who will share with me the work, expenses, and profits of an increase or extension of apiaries.

There is one thing which is often forgotten—viz., that bees cannot lose money, as may any other business, because some honey may always be obtained even in the very worst seasons, and it is a fact that when one has secured one's stock-in-trade it only requires a coat of paint once a year to keep it in good order. That and the cost of comb-foundation—which may be made up from one's own wax—sections, and sugar for stimulating are about the only usual expenses. The rent of apiaries—if any—and the carriage of produce are not serious items of expense.—C. Calvert, Cheltenham.

BEES AND VENTILATION.

[7265.] Amongst some bees which I purchased six weeks ago there were three lots in boxes, the entrances being fitted with a push-down slide and a one-bee-space hole cut out of that. As robbing appeared likely to set in I closed these slides, leaving just the small hole open. Now, many of the boxes and skeps I had bought fitted badly on the floor-boards, and as I was leaving home for some weeks I instructed a man who helps in the garden, and who had some lengthy knowledge of bees, to fill up the crevices with mortar. On my return home I discovered he had done his work well, excepting that in the case of one of the boxes mentioned above he had actually stopped the small hole, imprisoning the bees, of course! The weather in the interval had been exceedingly mild—some days were positively hot—yet when I opened the slide the bees poured out as though nothing was the matter. They were an old stock, and it is reasonable to suppose they had filled all cracks with propolis, which makes it all the more curious, for one wonders how they obtained air at all!

Another experience which may interest your readers. I purchased some skeps from a widow who had just lost her husband, and when I went to inspect them she suddenly began bewailing the fact that she had omitted to "crape" them; she assured me, however, they should be "craped" that very night, "'Cos," to use her own words, "I shouldn't like for 'em to die out after you get 'em home, which they'd bound to do unless they was craped." In due course I sent for the bees, and to each skep was fastened a small piece of crape. So far they have survived.—H. L., Dorchester.

SOUTH AFRICAN BEE-KEEPING.

ADVICE WANTED.

[7266.] I should be pleased if you or any Colonial reader would favour me through the B.B.J. with some information on South African apiculture. Anticipating emigrating to Barotseland, I shall be interested to know the variety of bee that will thrive best there, the *modus operandi* of hives, &c., and whether modern appliances have been introduced there.

As statistics show, the importation of honey is a heavy one, and South African apiarists are undoubtedly looking forward to the time when imported honey will disappear from the list of South African imports. I understand that your journals, by their international discussion of the bee-cult, also find their way beneath the Southern Cross.—Ignoramus, Pencader, Wales.

[We have many readers of B.B.J. in South Africa, and no doubt one of these will be able to give the information desired. Bee-keepers there are quite up-to-date in their methods; there are one or two bee-keepers' associations in existence already, and in the Transvaal the Government is being approached to grant funds to enable an expert to travel about instructing the farmers and their wives in the pursuit. The various agricultural societies also give encouragement to bee-keeping, that at Port Elizabeth having purchased a fully-equipped bee-tent (made by Mr. W. Herrod, of Luton, England) for the purpose of giving bee-demonstrations at their agricultural shows. Messrs. Cairncross and Zillen, Church Street, Pretoria, and Mr. F. Sworder, Johannesburg, supply British hives, bees, and all kinds of appliances, and American hives are also to be had.—Eds.]

TOWN HONEY.

[7267.] I enclose a sample of honey, and should be much obliged if you would give me your opinion of it. It may interest your readers to know that my bees

are kept on the roof of my office near the Barbican (fish quay), and therefore have either to cross a portion of Plymouth Sound or else go about a mile and a half or two miles inland to get their honey, except the little they can pick up from small gardens. Even so late as yesterday they were storing surplus in some combs I gave them to clean up.—C. B. COLLIER, Plymouth, October 30.

[The sample sent is nice-flavoured medium-coloured honey, rather thin, but would be improved by keeping in a warm place so that it could acquire greater consistency. The bees probably find their pasturage on Cat Down, and would have to cross about 250 yards of water.—EDS.]

GOOD HONEY DISTRICT NEAR LONDON.

[7268.] Could you or any readers of the B.B.J. indicate a good bee-district within, say, twenty or twenty-five miles' radius of Croydon, Kent or Surrey?—WORKER, Surrey.

Queries and Replies.

[3830.] *Instruction in Bee-keeping.*—Will you please give me information, through the medium of the B.B.J., respecting the experimental apiary attached to the Horticultural College, Swanley, Kent? Is it open to any who desire training in apiculture, and what are the terms, also length of course?

I am not a member of the B.B.K.A. and we have no county association here, otherwise I should have joined, but have taken the JOURNAL for several years. Thanking you in anticipation.—M. W. J., Withernsea.

REPLY.—The experimental apiary at Swanley belongs to the B.B.K.A., and is not for the purpose of giving tuition, but only, as its name denotes, for experimental work. The Swanley Horticultural College includes bee-keeping in the curriculum, the terms extending over two years. Fees, £80 to £96 per year. A short course is given in the summer of any two subjects selected from prospectus; duration, five weeks in May and June; fee, £13 13s. to £16 13s. Bee-keeping is also taught at Lady Warwick's College, Studley, particulars of which can be obtained from the principal, Miss Hamilton, M.D. Both these colleges are for women only. You could take a course of lessons at the School of Bee-keeping conducted by Messrs. Herrod and Stewart, of Luton, Beds, where sex is no bar. Every bee-keeper should belong to a bee-keepers' association, and if there is not one in the county he should join the British, as it is only by all co-operating that much good can be done to the industry.

[3831.] *Wintering Bees.*—I am wintering my bees this year on the passage system, by which I mean two strips of wood about $\frac{2}{3}$ in. thick and 2 in. or 3 in. apart, under the quilt. On the top of this I shall place the cake of candy. This will be somewhat awkward, and another year I propose to omit the strips of wood, and instead to cut a slit in the quilt across the middle—say 1 in. wide and 6 in. to 7 in. long—and over this slit to place the flat cake of candy extending beyond the slit at each end. This will enable the wraps to lie better. Please say if there is any objection to the plan here proposed.—COUNTRY MOUSE.

REPLY.—There should be no occasion for putting candy on the hives for wintering bees, as they ought to have been fed up sufficiently to supply them with all they require until spring. We prefer using the strips of wood, which can easily be removed in the spring, and the candy either slipped under the quilt or placed over a hole cut in the calico in the way you propose.

[3832.] *Value of Lavender for Bees.*—Will you be good enough to tell me: 1. Whether lavender has any value as a honey-producing plant, and what quality is to be expected therefrom? 2. Is there any practical objection to a bee-house designed to hold five body-boxes in line, it being understood that each box is fitted with a perfectly separate porch and entrance? If there is no objection to such a plan, would it be feasible to carry out the idea more extensively, and to build a permanent shed to hold fifty stocks in line? Thanking you in anticipation.—HERMANN LEA, Dorchester, October 27.

REPLY.—1. Lavender, like all the labiate family, yields nectar that is collected by bees, but generally the plant is not plentiful enough to give what can be distinguished as purely lavender honey. 2. No, there is no objection at all, and the plan is quite feasible. It is only a question of expense. We ourselves have our bees in such a bee-house, and on the Continent there are many bee-keepers who have fifty or more hives in one building.

[3833.] *Unusual Agitation among Bees.*—I am writing to ask your opinion and advice. I have five stocks. Just as it was getting dusk at five o'clock one of the stocks seemed to be very much agitated. The alighting-board was covered with bees, which would keep just flying off and on again, enter the hive, and

then in a minute or two would be on the alighting-board just as before. All the other stocks seemed perfectly quiet. This one I bought at the latter end of August, and I have never thoroughly examined them. There are eight shallow-frames in the hive. Is this a sign of queenlessness, and ought I thoroughly to examine the stock to see, or is it too late? Do you think there will be enough food to keep them during the winter?—NOVICE, Kirton Lindsey, October 28.

REPLY.—If the agitation has not continued it is possible that your stock was suffering for want of ventilation. If, on the contrary, the bees have continued in an unsettled state, they should be examined to ascertain if they have lost their queen, as continued agitation is generally a sign of queenlessness. The shallow-frame super should have been removed. It is impossible to say if the bees have enough food for winter without examining their hives. There should be about three superficial feet of sealed honey in the combs for their winter supply.

[3834.] *How to Distinguish Honey-dew.*—1. How am I to distinguish honey-dew? 2. I notice that we are frequently advised to give ventilation to bees; at the same time we are cautioned not to allow a draught through the brood-chamber. How is it arranged? 3. Do you issue an index with the B.B.J. and the *Bee-keepers' Record?* 4. I should like to see a copy of the circular you mentioned at the Conversazione reported on page 424 of B.B.J., "Honey as Food and Medicine," with the price for it in quantities, as I think each consumer of honey should have one, besides handing them to doctors, &c. Only this week I spoke to my doctor on the question, and his knowledge amounted to mixing honey with squills.—F. S. G., Hunsdon, October 28.

REPLY.—1. By its mawkish taste, unpleasant odour, and its dark colour of a dirty hue. Honey-dew from oak, sycamore, plane, and lime trees is nearly black, and a small admixture of it with honey gives the latter a muddy appearance. 2. Ventilation is given by widening the entrances, and in very hot weather by raising the body-box from the floor-board by means of wedges. The quilts on top allow of ventilation without draught, the number of layers being regulated by the state of the weather. 3. An index is issued with the last number of each volume of B.B.J. and first number of *Record*. 4. The circular alluded to is a reprint of an article by "D. M. M., Banff," which appeared on page 95 of *Record* for July, 1907, which number can be obtained from the B.B.J. office.

WEATHER REPORT.

WESTBOURNE, SUSSEX.
October, 1908.

Rainfall, 3·50 in.	Minimum on grass, 25° on 25th.
Heaviest fall, 1·63 in. on 18th.	Frosty nights, none.
Rain fell on 14 days.	Mean maximum, 60·4.
Below average, ·42 in.	Mean minimum, 47·3.
Sunshine, 134·6 hours.	Mean temperature, 53·8.
Brightest day, 1st, 9·9 hours.	Above average, 5·3.
Sunless days, 5.	Maximum barometer, 30·423 on 22nd.
Above average, 12·4 hours.	Minimum barometer, 29·862 on 27th.
Maximum temperature, 72° on 4th.	
Minimum temperature, 34° on 25th and 28th.	

L. B. BIRKETT.

OCTOBER RAINFALL.

Total fall, 2.48 in.

Heaviest fall in 24 hours, .83 in. on 18th.

Rain fell on 22 days.

W. HEAD, Brilley, Herefordshire.

Notices to Correspondents.

M. G. (Winton).—*Bees Cast out.*—From outward appearance we can detect nothing the matter with the bees sent.

G. D. W. D. (Gourock).—*Using Infected Appliances.*—It will be quite safe to use the articles if they have been disinfected as you say.

E. W. FRANKLIN (Hants) and N. C. E. (Monmouth).—*Secretaries of Bee-associations.*—The secretary of the Cheshire B.K.A. is Mr. R. S. Linnell, Grosvenor Chambers, Chester. For particulars of British B.K.A., write to Mr. Edwin Young, 12, Hanover Square, London, W.

Honey Samples.

E. M. M. (St. Asaph).—All three samples are cloudy and granulating. No. 1 is clover honey of good consistence and flavour and would be fit for showing in the light honey classes. Nos. 2 and 3 are also light, but too thin, and would stand a poor chance of winning a prize at a large show.

BEE-MAN (Silsden).—No. 1 is unripe bell heather honey in a state of fermentation. No. 2 is a fair sample of heather honey of good consistency, and could be shown if bottled free from air-bubbles.

Suspected Combs.

THETA (Manchester).—Foul brood is developing in comb sent. Larvæ are turning coffee-coloured, and are distinctly ropy when pulled out. As the stock is weak, your best plan is to destroy combs, bees, and quilts, and thoroughly disinfect the hive.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, Gentleman's Riding Saddle and Bridle, also Lady's Golf Clubs.—HATTON, Hill Cliffe, Warrington. l 80

1908 COCK GOLDFINCH MULE, lovely rich bronze colour, first Romford Show. Bargain, 12s. 6d. Exchange extracted Honey.—POSTMASTER, Romford. l 78

FOR SALE, EXTRACTED HONEY, in 14-lb. tins, 6d. lb.—ARTHUR ADCOCK, Meldreth, Cambs. l 39

FOR SALE, 12 BOTTLES OF LIGHT HONEY, awarded 7 firsts and 3 medals out of 8 entries in strong competition.—Apply, "EXPERT," care of JOURNAL Office. l 84

FOR SALE, or useful Exchange, "Bee Journal" and "Record," 1902-'08, unbound.—BARLOW, Bee-keeper, Stoke-on-Trent. l 83

8 CWT. OF CAMBRIDGESHIRE HONEY, at 56s.; sample 3d.—J. NIGHTINGALE, Doddington, Cambs. l 82

PICTURE POST-CARDS, Bee subjects, 6 for 1s.—W. DARRINGTON, School House, Eastwood, Notts. l 85

6 STONE PURE HONEY, 42s.; in Screw-cap Jars, 9s. per dozen, or 34s. for 4 dozen.—BETTISON, Glentworth, Lincoln. l 79

LADY, having Honey Packer's Business, wishes one with knowledge of Bee-keeping to join her.—BURN, Market Lavington, Wilts. l 81

2 CWT. PURE LIGHT HAMPSHIRE HONEY (Extracted), £3 cwt. Sample 2d.—Apply, M., care of BEE JOURNAL. l 72

CLEMATIS MONTANA, quick climber, masses of snowy flowers in Spring, strong seedlings, 4d. each, 4 1s.; Arabis slips, 20 1s.; Double Arabis, 30 1s.; Limnanthes Douglasii, 50 1s.—F. B. MERCER, Sidmouth. l 28

7 CWT. OF LIGHT EXTRACTED HONEY, 58s. cwt. on rail; sample 3d.—"A.," care of BEE JOURNAL. l 73

WANTED, to Rent or Purchase, Country Cottage, with 2 to 4 acres, in early Honey district, not near other Apiaries; stabling, Home County. About £30 per annum.—"S.," care of BRITISH BEE JOURNAL. l 70

WANTED, by Handy Man, Situation, assist Gardener, understands Bees, making appliances, &c.—"J.," care of BEE JOURNAL. l 71

2 CWT. GOOD EXTRACTED HONEY, 63s. cwt., 1-lb. bottles, or 7s. doz.; sample, 3d. Cash or Deposit.—W. H. RACEY, Emneth, Wisbech. l 65

5 CWT. NARCISSI BULBS, 3s. cwt., or exchange for good Ripener or Honey.—W. H. RACEY, Emneth, Wisbech. l 66

SELL FOLLOWING INCUBATORS: 200, 100, Cyphers; 100, Clive; 100, Tamlin; 50, Hearson. —HERROD, Apiary, Luton. l 59

WANTED, TO PURCHASE, CHEAP FOR CASH, Bound "Bee Journals," 1890 to 1905. Sell, or exchange years 1881, 1883. — HERROD, Apiary, Luton. l 58

FOR SALE, 22 Stocks, 2 Shallow-frame Supers each, Frames and Foundation, 30s.; empty Hives, 5s. 6d. each.—E. BENNETT, Heacham, Norfolk.

SECTIONS WANTED. State price. Must be light and new.—THE HONIELADE CO., 23, Moorfields, E.C. k 67

Special Prepaid Advertisements.—*Continued.*

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SECTION GLAZING.—Best quality Lace Paper, made especially for Bee-keepers' use, not common box edging, white, 100 6d., 300 1s. 4d., 500 2s. 3d., 1,000 3s. 9d., post free; blue, green, or pink, 100 7d., 300 1s. 6d., 500 2s. 6d.; Lace Bands, 2¼in., 3in., and 3½in. wide, white, 100 1s. 2d., 200 2s. 3d., 500 4s.; a few in pink and blue, 100 1s. 4d., 200 2s 6d.—W. WOODLEY, Beedon, Newbury.

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THE

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

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EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR.

OFFICE 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

REGISTERED FOR TRANSMISSION AS A NEWSPAPER.] [ENTERED AT STATIONERS' HALL

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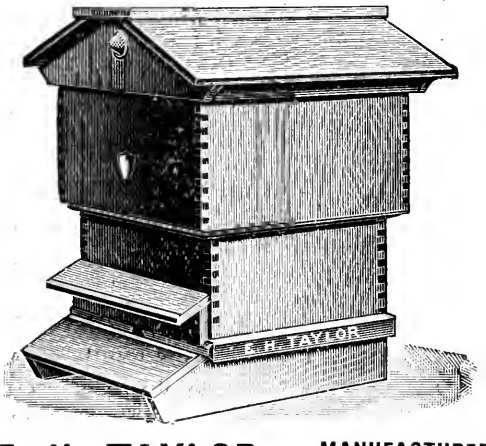

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British Bee Journal

ESTABLISHED 1873.

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Edited by T. W. COWAN, F.L.S., &c., and W. BROUGHTON CARR.

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Correspondence: Whom to Address.—All matters relating to the Literary Department, Associations, Shows, &c., should be addressed "Editors, *British Bee Journal*," and all business communications and matters relating to subscriptions and advertisements to be addressed to the "Manager," *B.B.J.* Office.

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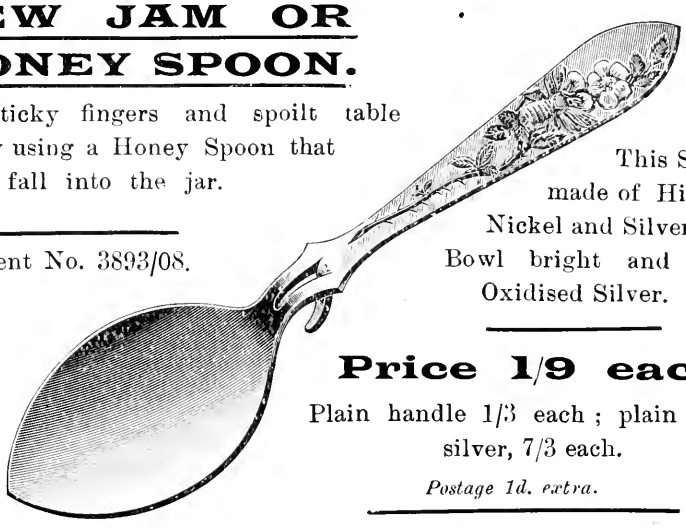

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Editorial, Notices, &c.

REVIEWS OF FOREIGN BEE-JOURNALS.

By "Nemo."

Destroying Ants.—A correspondent of *Pommersche Ratgeber* recommends camomile for the destruction of ants. He puts a heaped teaspoonful of camomile in half a pint of boiling water, and when this decoction is cold he strains it, sweetens it with sugar, making it into a thin syrup. Ants take this syrup readily, and die in consequence.

Swiss Statistics.—We find in the *Bulletin de la Société Romande d'Apiculture* that the Department of Agriculture for the Canton of Vaud publishes interesting statistics respecting the progress of apiculture in that canton. It shows that the number of hives with movable combs is increasing, and that they are replacing straw skeps.

	1906	1907
Straw skeps	6,641	6,194
Movable-comb hives	13,267	13,538
Total number of hives	19,908	19,732

The total production of honey amounted to 197,500 kilogrammes. The value of the produce in 1907 was 393,785 francs; in 1906, 93,950 francs. Total increase in 1907, 299,835 francs.

Recognising Age of Queen.—Pastor Straüli has been writing a series of articles on queen-rearing as recommended by Mr. Sladen in his book "Queen-rearing in England," from which also some of the illustrations have been reproduced, in the *Deutsche Illustrierte Bienenzeitung*. In a recent number the writer says when it is desired to destroy a queen for the purpose of introducing another, frequently there is an uncertainty as to the queen in the hive being an old or a young one that has been replaced in the natural order of events. In order to be certain about it M. Straüli gives the queen a push with his forefinger. If the queen runs away swiftly or flies she is for certain a young one, and should be retained. If, on the contrary, the queen moves away languidly she is the old one, and can be destroyed. A queen of the previous year will sometimes fly a little. During warm weather a queen that has only recently been fecundated will also fly if the frame of comb on which she is found is lifted out of the nucleus: therefore, when desiring to examine a nucleus to ascertain if a queen has commenced to lay, it is best to take it into a room and open it in front of a closed window, against which the queen would fly and could then be easily found.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of October, 1908, was £1,743.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

NORTHUMBERLAND AND DURHAM B.K.A.

ANNUAL SHOW.

The ninth annual exhibition of honey, &c., in connection with the Northumberland and Durham Bee-keepers' Association, was held on October 10 in Crosby's Café Hall, Northumberland Street, Newcastle. There was an excellent and interesting display, and the number of persons interested in bee-keeping was considerable. Prizes were awarded as follows:—

Observatory-hive, Bees, and Queen.—1st, J. E. Walton, Blackhill; 2nd, J. Smith, Benton.

Six 1-lb. Sections.—1st, J. J. Harding, Trimdon Grange; 2nd, Thomas Mills, Wooler; 3rd, J. S. Hay, Killingworth; 4th, J. Smith.

Six 1-lb. Jars Extracted Honey.—1st, J. J. Harding; 2nd, A. S. Smith, Consett; 3rd, Jacob Smith, Benton; 4th, W. Pearson, Lumley.

Six 1-lb. Sections (Heather).—1st, J. M. Balmbra, Alnwick; 2nd, Robert Robson, Wooler; 3rd, J. S. Hay; 4th, Thomas Mills.

Six 1-lb. Jars Extracted Heather Honey.—1st, A. R. Smith; 2nd, J. Smith.

One 1-lb. Section (Heather).—1st, Robert Robson; 2nd, L. G. Richardson; 3rd, Jacob Smith; 4th, W. Pearson.

Non-sectional Super of Heather Honey.—1st, J. S. Hay; 2nd, A. R. Smith.

Sectional Super of Heather Honey.—1st, J. S. Hay; 2nd, J. J. Harding.

The president of the association is Lord Barnard, the hon. treasurer is Mr. J. W. Wakinshaw, and the hon. secretary is Mr. J. C. Hedley, Stocksfield.

CROYDON B.K.A.

The honey show of the above association was held at Croydon on September 10 and was a complete success, the large gathering of members and friends present being very gratifying to the secretary and committee. Mr. W. Herrod, F.E.S., judged the exhibits, and made the following awards:—

Three 1-lb. Sections.—1st, J. Silver, Croydon; 2nd, C. Pay, Croydon; v.h.c., Miss R. Latham, Croydon; h.c., A. Linton, Croydon, and Miss W. Benzon, West Sanderstead.

Single 1-lb. Section.—1st, A. Linton;

2nd, C. Pay; v.h.c., W. J. Knott, Croydon; c., Miss Benzon.

Three 1-lb. Jars Light-coloured Extracted Honey. 1st, J. Silver.

Three 1-lb. Jars of Medium-coloured Extracted Honey.—1st, A. E. Barnes, Anerley; 2nd, Mrs. M. G. Brett, Kenley; v.h.c., W. G. Fisher Webb, Croydon; c., C. Pay.

Three 1-lb. Jars Dark-coloured Extracted Honey. 1st, Miss E. Wickham Jones, Selhurst; 2nd, W. J. Knott; v.h.c., Mrs. Brett; c., F. A. Pimlott, Thornton Heath.

Single 1-lb. Jar of Granulated Honey. 1st, J. Silver; 2nd, H. Tebutt, Wallington.

One Shallow-frame for Extracting.—1, H. Tebutt; 2, F. A. Pimlott.

Beeswax.—1st, W. G. Fisher Webb; 2nd, Rev. C. H. Buxton, Thornton Heath.

Articles of Food in which Honey is the Principal Ingredient. 1st, Mrs. Isabelle Pimlott; 2nd, Miss Wickham Jones; v.h.c., Mrs. Wakerell, South Croydon.

Home-made Frame-hive. 1st, A. Linton; 2nd, G. E. White, South Croydon.

Most Useful Home-made Appliance Connected with Bee-keeping.—1st, G. E. White (rapid-feeder); 2nd, A. Wakerell (water-fountain); v.h.c., J. Silver (queen-cage).

Putting Together Standard Frame and Section. 1st, J. Silver; 2nd, E. R. Seaden. *(Communicated.)*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

AMONG THE BEES.

FIFTY STING "CURES."

[7269.] The most simple and efficacious of all remedies is an immediate application of cold spring water. A piece of linen soaked in water will quickly assuage the pain and diminish the inflammation. No, says a second authority, use warm water; a soft moist warmth aids circulation and quickly eliminates the poison or disseminates it, toning it down to nothingness. Laudanum with some persons will afford immediate relief. Oil of olives is said to be a sovereign remedy, and even cures the bite of a serpent. A cloth soaked in vinegar and quickly applied to the wound cures as nothing else will. The juice of certain plants, generally near at hand in every bee-garden, such as dandelion and dock, rubbed in as soon as the weapon is withdrawn, is an infallible remedy for a bee-sting. Modern gardeners will have to buy in a stock! An hon. member of the Society of Arts, &c., and a very learned man, includes urine in a long list given in his book on bees. A Prussian recipe reads: Beat an onion on a hard substance to extract the juice, to which add a pinch of salt, and the pain and inflammation will instantly cease. Saliva is a prime remedy. I did but spit on the place stung and at once felt the pain assuaged. Throughout a great part of the North it is confidently credited that if the place stung is quickly covered with a copper coin first covered with saliva, the poison will be neutralised and only a minimum of pain or swelling will be experienced. Numerous authorities say: Extract the sting *instanter*, and you never afterwards experience the slightest inconvenience. Pressure with the hollow end of a key is practised by some unfortunates, and is said to check the circulation of the poison. Common salt rubbed on the stung part, or laid on as a plaster, allays the pain. The juice of the plantain is said to be a specific, and an American poet says this plant followed the white man and his bees on that continent. An old lady whose bees stung a passing pedestrian ran to her cottage and produced a bottle of hair-oil, an application of which cured the pain as if by magic. Many believe in tobacco as the one cure for a sting, but a difference exists as to whether it should be applied in a dry or a moist state. Either may do, for great is the power of faith. Somewhat similarly, quite a host of bee-keepers believe whisky is the one infallible panacea, but a division exists as to whether it should be applied on the wound or inside! Chalk dusted over the point punctured is as good a cure as exists, and common whiting is just as efficacious. Neutralise the acid poison of the sting by the application of any alkali. In preference to anything else I would recommend the immediate application of liquor potassæ to kill the power of the acid in the sting and make it of no effect. In the absence of this pure liquid, ammonia is said on good authority to succeed if properly applied. Even the blue-bag has a beneficial alkaline power. Baking-soda is often applied, and washing soda may be substituted with no fear of any ill effect following. At different times "Apifuge" has been advertised as a remedy, and so has "Resa." I think I have seen caution and confidence

named, and neatness and gentleness in manipulation may also be given as sting-preventers, if not actual cures. Smoke we all know is a pacifier, and so a sting-preventive. Carbolic acid, and a host of other preparations of the same kind, may also be named in the same category. A veil may also be included. A little honey, says a high authority, stops the irritation. Some maintain that the juice of the bee, pressed on the sore, gives speedy relief. All know the peasant's ready cure, quick of application and always at hand—a little moist earth pressed on: some prefer black earth, others vote for clay. I have seen two cures mentioned that I am not familiar with, viz., goulard water and extract of Saturn, but perhaps it is immaterial that I cannot give the address of any venders. Linseed oil, generally near at hand when we are preparing our paint, is strongly recommended as something worth trying. Neat's-foot oil, whatever it may be, can be substituted, and reckoned on to cure. Butter has been strongly championed, and hog's lard cures the pain like a charm, counteracting the evil effects of the acid poison.

"Rub with the juice of a sage leaf" is the sage advice of a sage of ancient times. Soap has been tried with some success. A prominent dealer advertises a sting remedy, name unknown so are the ingredients guaranteed to give almost instant relief, and he has also a sting-preventer certain to ward off the attacks of the most savage bees. I cannot certify if he uses it himself. Few cures are used in America, but amongst them is kerosene oil. Bruised parsley is recommended by some. Bonner had not much faith in any kind of remedy, and Huish records of him that he has seen his bald pate literally covered with stings during a bee-tent demonstration, so it is no wonder, he says, that "in general he does not try any cure but pulling out the stings, when he knows time and a little patience will afford an infallible cure. Yet he at times takes a blade of kail, or almost any green leaf nearest him, and rubs in the juice." One writer rather boldly advises to suck out the sting with the mouth. As the weapon is capable of making a second penetration for a considerable time after being withdrawn from a wound, I would rather it went into somebody else's tongue, so I will leave the experiment to others.

All the foregoing remedies or "cures" (none personally guaranteed, remember) are gleaned from authoritative sources. They can be taken in the conglomerate as given, because assorting them in batches would be lost labour. My own favourite cure is to take out the sting with the thumb-nail rubbed at an angle, or by striking the hand obliquely against the clothing, and then grin and bear it. In ten minutes the sharpest eyes cannot detect the part stung.—D. M. M., Banff.

CULTIVATION OF BEE-FORAGE.

Whensoe'er they move, before them
Swarms the stinging fly, the Ahmo—
Swarms the bee, the honey-maker;
Wheresoe'er they tread, beneath them
Springs a flower unknown among us—
Springs the White Man's Foot in blossom.

[7270.] The beautiful description in Longfellow's "Hiawatha" of the coming of the white man reminds us of the part played by the honey-bee in the spread of many of our plants and trees, which cover the earth with loveliness and yield their delicious nectar to the bee, afterwards to be converted into man's choicest luxury and most wholesome food. The spread of civilisation, the coming of the honey-bee, and the springing of honey-bearing plants are described as following one another as a natural sequence. The same thing is happening to-day as of old, but the study of bee-flora and the cultivation of trees which would be useful to apiculture do not receive that attention which the importance of the subjects demands. The discussion at the B.B.K.A. Conversazione, as recently reported in the JOURNAL, was interesting and useful. Some of the suggestions offered by speakers present might well be followed up with advantage to future generations of bee-keepers, as well as to the whole community at large. County Councils and education authorities are now fully alive to the great benefit of Nature study. The rising generation is taught in our schools to appreciate beautiful surroundings, and, encouraged by education authorities, schoolmasters are teaching children how to recognise and cultivate flowers and plants. At many schools gardens have been laid out, and the children are given valuable lessons in horticulture. If to these gardens a stock of bees could be added and lessons in apiculture given, together with instruction on the relation of bees to flowers, and the value of planting trees which yield honey and pollen, much good would result to bee-keeping in the future. Some of our schoolmasters are enthusiastic bee-keepers, and give every encouragement to their pupils to study the craft. Let us hope that education authorities will eventually add bee-keeping to the school curriculum wherever possible, and for the present we may commend to the consideration of County Councils and others the question of planting trees suitable for bee-forage. Where parks are being laid out, in or near towns, the planting of shrubs, such as willow, flowering currant, and other

early honey and pollen bearers, would certainly be very advantageous, and sycamore and lime trees would also contribute to the prosperity of stocks, if they did not greatly enhance the harvest of honey. A continuous light flow from minor sources, leading up to the main flow from white clover, is a great aid to securing a heavy surplus. In many good clover districts much of the stimulus previous to the clover season must be artificial, owing to the lack of a succession of honey-bearing blooms. Judicious planting of plants and trees, producing a continuous supply of honey and pollen, would be a great advantage in such districts.—G. W. Avery, Heads Nook, Carlisle.

BEES IN THE ISLE OF MAN.

DR. KUCKUCK ON PARTHENOGENESIS.

[7271.] I herewith send you a short report on the past season in this part of the Isle of Man. My bees have done fairly well, averaging about 35 lb. per colony, while increasing 33 per cent. in stocks. Most of my "take" was gathered in June and the first week in July; after that time I took scarcely any honey from my bees, as it is my practice to leave a super on each hive for wintering, and I find it pays me well to follow this plan, for I have never lost a stock yet through starvation. I am wintering fifteen stocks for next year's work.

I tried a stock of yellow bees this season, but—to use a vulgarism—they made me "sit up," as they were so vicious that I hardly dared approach the hive during the warm weather; in fact, they were so savage that I actually let them swarm rather than disturb the hive to give increased room. I have only had two swarms this season, so the difficulty of controlling swarming has almost disappeared from my bee-keeping horizon. With regard to honey-selling, I may say that the whole crop now sells easily as soon as I can get it off the hives and into jars ready for sale—a fact which makes the hobby all the more enjoyable.

Parthenogenesis in Bees.—I am rather surprised that you do not controvert the argument against parthenogenesis recently advanced in the B.B.J. by Dr. Kuckuck, as it is altogether contrary to the teaching not only of the B.B.J., but of your well-known work on "The Honey-bee." If, as stated in the book named, it is a physical impossibility for a worker-bee to mate with a drone, the Doctor's whole argument falls to the ground, and it can be clearly demonstrated that a virgin queen kept absolutely free from drones will lay eggs that produce only drones. I would also ask: Do not the experiments by Darwin with the aphis, described in his "Origin of Species," clearly show that the law of parthenogenesis is equally applicable to aphis and bee? I think most bee-keepers who take an interest in the life-history of the bee will appreciate any pronouncement confirming what we have always believed to be the only logical and reasonable solution of the sex problem in bee-life.—Jno. J. Moughton, Laxey, Isle of Man.

[We endeavour to keep our readers informed about all that goes on not only in connection with the practice of bee-keeping, but also in the science, and it was for this reason that we reviewed Dr. Kuckuck's book, "Es gibt keine Parthenogenesis," in the B.B.J. of July 30 (page 304). By allowing the Doctor space in our correspondence columns to state his case, we do not hold ourselves responsible for the opinions expressed (see notice under "Correspondence" heading). These have in no way altered our own views on parthenogenesis, and there are at present very few who agree to accept Dr. Kuckuck's theories without practical confirmation, which so far is wanting. Parthenogenesis, not only in connection with bees but also aphides and moths, is established on so good a foundation that argument alone cannot shake it.—Eds.]

AN OLD-FASHIONED BEE-HIVE.

"KING'S" PATENT HIVE.

[7272.] As promised some time ago, I am sending you a photo of "King's" patent hive, though I regret to say it is not the original my father had, which would have been quite forty years old by now. When foul brood cleared out my apiary a few years ago, I burned the old hive and then made a new one, as shown in the photo.

It is not a movable-comb hive, but has a row of drawers on the top for a super and two in the body, and a special section crate can be used if wished. The drawers in the original hive were 4 in. wide, $3\frac{3}{4}$ in. deep, and 12 in. long (outside measurements); therefore they would not take present-day sections, so in the new hive I made them to each take six 1-lb. sections. I am inclined to think, however, the old plan was the best, to let the bees fill the boxes and hive in any way they like. After all, a little virgin comb-honey with no thick midrib is very nice.

I make a practice of turning up the body-box each spring and cutting out half the comb; then I have the pleasure of seeing comb-building going on each year, and I also think it tends to keep foul brood in check.

I do not say this kind of hive is the best for large surplus, but I have had over

80 lb. of comb-honey from the drawers alone in a single season, and if the stock does send out a swarm it is a very fine one.

The original "King's" hive was a box about 20 in. long, 12 in. high, and 13 in. front to back; it had two drawers in the body and five on the top for surplus-chambers, the drawers in the body running in "cases."

The top of the hive has five narrow slits, by which the bees gain access to the drawers or surplus-chambers. These slits are covered with pieces of hoop-iron, which form slides and are pushed in when the drawer is to be removed and pulled out when access is required. The drawers have a loose bottom, which has a slit to correspond with the slit in the top of the body-box.

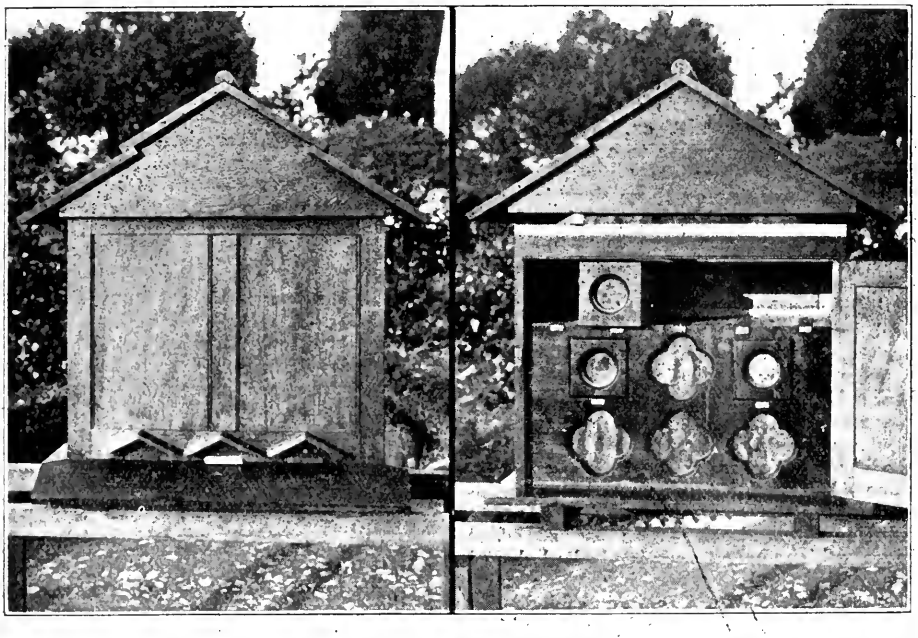
The outer case, which slides down over the body-box, is "framed up," and the corners have tenons left on, which go through the bottom board to keep all in place; and the roof is also movable, as shown in photo.

Personally, I would not on any account be without one hive of this kind, as it is a great delight to my friends, who can safely open the door at the back and watch quite a lot of bee-life.

I think some of your readers might like to try one of these hives during the winter, and if they take a little trouble they can turn out a very nice-looking hive. I made mine as follows:—Body and drawers of yellow pine, back of drawers and body of mahogany (varnished), and floor, outer case, and roof of oak. The windows are easily cut with a Clark's expanding bit.

I think this kind of hive, worked with a bell-glass for a super in summer, is as near to an "all-the-year-round" observatory-hive as one can get, and should be in the apiary of everyone who keeps bees for pleasure.

The photographer, as my gardener said, was afraid of "them little yaller tigers," which is his name for some Ligurian hybrids, so I closed the front door while he did his work.—R. Bayly, Torr, Plymouth.



AN OLD-FASHIONED HIVE.

Front View. *Back View.*

FORMIC ACID AND FOUL BROOD.

[7273.] I recently wrote to M. Wimel, of Ploudalmézeau, France, respecting an article on page 335 of the French bee-journal *L'Apiculteur* for September last, in which a method of his for curing foul brood is described. A reply has been sent by M. Le Bec giving further particulars of M. Wimel's method, at the same time adding particulars of a cure which M. Le Bec himself resorts to, which consists of formic acid in proper dilution.

I thought that the portion of M. Le Bec's letter relating to this cure would perhaps be interesting and profitable to your readers, especially if you will kindly give the proportions of acid and water in English measures, with any further information available as to price of acid, where obtainable, &c.—G. Hulbert, Paddington, October 26.

"Thinking you would be interested in a method of cure we have found successful, allow me to describe it. We procure from Messrs. Poulenc Bros., of Paris, formic acid of 90 deg. One hundred to 110 grammes [about 3½ oz. to 3⅞ oz.] of this acid are poured into a bottle of one litre [1¾ pints]. We then put in 200 grammes [7 oz.] of alcohol of 90 to 95 per cent. (rectified spirits, sp. gr. 0.834, or absolute alcohol, sp. gr. 0.794), and fill the bottle with water. We then administer 100 to 150 grammes [3½ oz. to 5¼ oz.] per week of this preparation to every diseased colony. Sometimes we pour a certain quantity every two or three days into the combs on either side of the brood; at others, so as not to have to uncover the hive, we pour the contents of a liqueur glass against the interior side of the hive. It is very seldom that a hive containing foul brood submitted to such treatment does not become cured in fifteen days, more especially if care is taken to give the bees a little syrup containing about a teaspoonful per litre of the above composition every day. After curing, we submit the hive to the action of formic acid for some time by introducing in a glass vessel a certain quantity of the above solution covered with wire gauze. The hives which have contained foul brood are disinfected by washing them with water to which formic acid is added. By this means this year we have got rid of foul brood in all our colonies, which were pretty strong in bees. J. Le Bec, Ploudalmézeau."

[We have given the English equivalents in brackets in the above translation. Formic acid, sp. gr. 1.2, will cost about 5s. a pound of manufacturing chemists, and somewhat more of a retail chemist. Eds.]

LARGE "TAKES" OF HONEY.

[7274.] As I am responsible for stating that as much as 200 lb. of honey was taken from a single hive (and this, too, in an apiary which had disease in April), may I now say that it is not my habit to make statements without having good reasons for so doing? Perhaps your correspondent "H. Wilcox," who writes in the current issue of the B.B.J. (7263, page 447), judges other bee-keepers by his own standard. I have myself done some painting in water-colours and some in oils, but never painted in sugar. He openly commits himself when he says what an experience he has had, and glories in the fact that he has managed (perhaps the bees did) to get as much as seventy-one sections from a hive. A moderate district will produce that number in a good season, and hundreds of bee-keepers could show better results. My experience of this season has been that it proved exceptionally good in many districts. The bee-keeper who obtained an average per hive of 123 lb. from eighteen hives keeps the noted "Golden" strains, and makes good use of the profits to help the work of his church. I have enumerated thirteen other separate cases, and append some of the quantities taken, as follows: 1. 838 sections from sixteen hives: a swarm produced sixty sections and one hive eighty-three. 2. 500 lb. from nine hives. 3. 200 lb. from four hives. 4. 200 sections from two hives. 5. 400 lb. from five hives. 6. 725 lb. from seven hives. 7. 167 lb. from one hive. 8. 170 sections and extracted from one hive. 9. 100 sections from one hive. 10. 200 lb. from one hive. 11. 50 lb. per hive and eight swarms from twelve stocks. 12. Eighty-four sections from one hive. 13. 406 lb. extracted and comb from four hives. Are these figures not convincing enough for "H. W."? Two years ago one member from his four best hives had an average of about 230 lb., and others reached the coveted 200 lb. in some cases. If "H. W." had been reasonably courteous in his remarks I might have given him some useful information about the management as I see it carried on, but I feel sure the members of the S.B.K.A. would reluctantly help a person desiring to live a parasitic existence. In these times bee-keepers cannot be solely philanthropists. Bee-keeping is an industry as well as a pastime.—A. W. Salmon, Hon. Sec. S.B.K.A., Cashfield House, Chingford, November 9.

BEE-STINGS AND RHEUMATISM.

[7275.] As a recruit in the army of bee-keepers, I am very interested in the B.B.J., and have found during the past eighteen months many difficulties removed through a perusal of its pages. I was interested in the discussion reported in the issue of October 29 on "Stings," by Colonel Walker, and particularly with reference to an apparently chance remark on stings as a cure for rheumatism. Now, as this is the silly season for bee-keepers, possibly some brothers would be willing to give their personal experiences as to whether there is a good foundation for the theory believed by many that an often-

stung bee-keeper keeps that painful disease at bay. Whether it is a fallacy or not, I may say that last year, during the whole of the spring and summer, I feared that I was likely to become a chronic subject, but I am pleased to say that since then I have not had a twinge of rheumatism, and during my visit to my medical man I mentioned the fact that I had been stung several times. He appeared very interested, and said it was well worth investigation. If you think the question is worth discussion, you might find space for this note in your next issue. R. S., Cambridge, October 29.

[You will find further reference to bee-stings curing rheumatism in the discussion continued on page 441 of last number of B.B.J. Dr. E. W. Ainley Walker, lecturer in pathology in the University of Oxford, has been for some time investigating the matter, and has collected a large quantity of evidence. This with the correspondence is fully reported in the *British Medical Journal*, and will, in due course, appear in the B.B.J. Eds.]

BEES AND POLLEN-STORING.

[7276.] Your glowing account of Mr. Tickner Edwardes's latest volume, entitled "The Lore of the Honey-Bee," in B.B.J. of October 8, tempted me to purchase the work, and I must say that it far exceeded my expectations, for never have I more thoroughly enjoyed reading a book. On page 57 he says: "The little half-spheres [of pollen] are packed into the pollen-cells indiscriminately. . . ." Now, at a lecture by an expert I was given to understand that each kind of pollen was stored in particular cells, care being taken to keep it separate. In like manner the honey from different sources was also stated to be stored in separate cells. I shall be much obliged for your decision on this matter, if you can spare space in the BEE JOURNAL. EDGAR W. DEMPSTER, Ilford, Essex, November 8.

[Notwithstanding what you heard at a lecture, it is certain that pollen gathered from various flowers is stored in single cells. We have repeatedly had evidence of this in our own experience, having seen layers of different-coloured pollen in single cells. At the same time, it is quite true that the majority of cells in a comb are, as a rule, stored with pollen of the same colour, simply owing to well-known pollen-yielding flowers blooming abundantly at particular seasons, and attracting bees from the same hive. Eds.]

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

The Deluge (page 392). "D. M. M.'s" quotation of "the rains and floods" inspires one to reflect on what became of the bees in that terribly wet season, and whether they, too, suffered from excess of moisture. It is said that there is nothing new under the sun, although the sun did not shine much at that period. So, if the bees were taken on board, this would be one of the earliest recorded instances of migratory bee-keeping. And somebody whose especial charge they were would have a happy time, for bees of the Bible seem to have "chased" people and "compassed them about." That they retain these bad habits even to this day is the opinion of those who have had any experience of Syrian or "Holy Land" bees.

Black or Yellow? (page 392).—My experience is somewhat similar to that of "D. M. M." When I had yellow bees I found that they were diligent robbers. This was not solely because they could be easily distinguished on account of their colour, and that the black villains were less easy to detect. They actually did rob more, and fussed around generally to a greater extent than the blacks. But in spite of all this apparent energy, they did not with me do so well. Now why should this be? For it does not, upon the face of it, appear consistent. Did they waste their time looking for honey when the object of their search should have been nectar? Or did they wear themselves out with an over-zeal for work of any kind whatever? I do not know, but they did not appear to be able to cope with a district where early concentrated endeavour was absolutely necessary to success. Now there must be some explanation for the difference of opinion with regard to these bees. Is it possible that district and date may account for it? All good Americans and some not bad Britishers appear to swear by them, others only to swear at them. Why? What are the conditions necessary for them to prove their advertised value?

Thick Honey (page 396).—I am much obliged to Mr. Breach for referring me to his second letter. Although my query was published later, it would be written before the appearance of his kind information. How delightful it would be if we could grow "orange, lime, lemon, and citron" in this locality; but we cannot have everything.

Agenda (page 401).—The order in which the subjects for discussion at the Conversazione were placed suggests some thought of sequence. First we were to make the acquaintance of "stings," then to learn the art of "feeding the bees," and finally to graduate in "selling honey." But circumstances disposed otherwise, and another, and perhaps equally natural, sequence resulted. First we sold the honey, then we recklessly failed to feed the bees we had so ruthlessly robbed, and, as a matter of just retribution, we made

such acquaintance with stings that the meeting finally broke up without sufficient coherence to pass closing resolutions!

Dairy Show (page 402).—I noticed in the final class for practical exhibits a queen-cage which appeared to be exhibited as a new or original idea. I think, however, that this is practically the same cage as that designed and illustrated by Dr. C. C. Miller, of Marengo, and the exhibitor (Mr. John Silver, I believe) may be glad to be referred to this for comparison.

The Road Home (page 405).—We do not credit ourselves with a special sense of distance, because we know by use the homeward way and just where to cross the street to our own door. We have many accustomed and, by frequent daily use perhaps, sub-conscious landmarks, and if our door were to be moved aside we might be liable to unthinkingly err until its position had again become usual. Or, again, if our flat or offices were to be, suddenly and without notice, removed a story higher, we should be confused, and for some time it might require a distinct mental effort, upon even our brainy part, to resist the inclination to tread the old, accustomed corridor.

So with the bee. It may be that they follow, when close to the hive, a well-known aerial road, and, unheld by any bond of earth, nor "fretted and bound" by hedge and ditch, it may have become instinctive to them to create, on their untrammelled way, guide-posts of which they are conscious in passing; whilst their senses are in the main concentrated upon the immediate duty.

Recently I transferred some bees from a one-bodied box to a two-storied hive, of otherwise similar pattern, placed upon the old stand. The bees, left in the old box, flew back and alighted on the hive, not at the original entrance, but at the bee-tight juncture of the two bodies; or, in other words, at approximately the same distance below the roof as the old line of flight. If this be the explanation, it might yet be attributed to sight and not to any other special sense. For if a bee possessed such a sense of distance, independent of its sight, as Mr. Harris would appear to suggest, surely we might expect it to fly by night! If he has not already seen them, Mr. Harris would be interested in the articles by Dr. Buttel Reepen, to which I have already referred as appearing in *Gleanings*.

Au Revoir (page 405).—Mr. Farmer's personal approval of the Scots has not much to do with bee-keeping, but it should prove a very nasty blow to Mr. T. W. H. Crosland! But how on earth, or in the British Isles, does he know that the best farmers live in the land of oat-fields? He says that there are no better—no, not one—not even in Cornwall! That would appear to be hard on Yorkshire, for instance; but Mr. F. admits that he went by boat, so that he might easily be at sea when judging of the merits of intermediate farms. And how does he know anything about *mal de petite mer-ie* if he has never been sea-sick? Or cured it? Ah! It is easy to discuss these things from an armchair. Let him do so from the vantage of an easeless bunk—which seems to be a hybrid between a top-heavy rocking-horse and a drunken elevator—with his head on the edge of an unsympathetic tin basin. Biliousness indeed! We others—we who know—know that it is a wile of the Evil One to make us lose faith in physicians and in life as a thing worth living! But Mr. Farmer is leaving us, I for one am sorry to hear, although I hope he will still read "Cappings"! It is perhaps too bad to pull like this at his coat-tail, but perhaps he may give me just one maledictory wave of his hand. Excuse me, Mr. Caxton, that is a mistake. Valedictory!. I see that he has disposed of his "apiary holus bolus." I had no idea that he kept one! Did he not find it very inconvenient at large amongst the bees? Or perhaps he kept it tied up. But, as Hinnissy would say to Mr. Dooley, "Phwat is a holus-bolus, annyhow?" Has it anything to do with foul brood?

Queries and Replies.

[3835.] *Adulteration of Honey.*—Enclosed is a cutting from the *Bazaar, Exchange and Mart* of April 18 last. Have you heard of the idea and is there any truth in it? I send name for reference.—CRYP, Sleights, November 3.

The cutting sent reads as follows:—

"ARTIFICIAL HONEY.—Bee-keepers in Italy are becoming seriously alarmed at the perfection which has been attained in the manufacture of artificial honey. The process, which is a very simple one, is thus described by a contemporary: Take 1 kilo (2¼lb.) of best refined sugar, place in 300 cubic centims. of water, add a gramme of tartaric acid, boil it in an enamel vase under pressure up to 110 deg. Fahr. for forty-five minutes, until the liquid has assumed a golden colour. Leave it to cool, and it will assume the solidity of ordinary honey. If a little true honey is mixed with it, the mass will assume the flavour to such an extent as to be indistinguishable from the genuine article."

REPLY.—There is nothing new in the above, except as regards bee-keepers in Italy becoming alarmed. For many years there have been manufactories of what

was called "table honey," consisting principally of glucose or sugar syrup. This was served at hotels for breakfast, and was largely consumed. In French Switzerland and France it went by the name of "miel de table," and in Germany and part of Switzerland it was called "Tafel Honig." It had no resemblance to honey except in colour and consistency, and was utterly devoid of the peculiar aroma which obtains in honey, and easily distinguishes it from any imitation. Recent legislation on the Continent prohibits anything not collected and made by bees from being designated as honey. Moreover, the fraud is easily detected by analysis, and many cases of adulteration have already been detected and the perpetrators punished.

[3836.] *Rearing Carniolan Queens.*—As an absolute beginner in bee-keeping, I should be grateful for your advice. My questions relate to next spring, and my reason for troubling you now is that I propose making hives, &c., for my requirements, and can better judge by your help what is wanted. I have seven stocks; all seem strong, with plenty of stores. I propose to start nucleus hives for queen-rearing, and should like to rear Carniolan queens to re-queen all stocks and any swarms. I therefore ask: 1. Could this be done by purchasing in the spring two queens, and introducing one into a hive for drone-rearing and the other to obtain eggs for queens to be raised in another stock, the cells to be afterwards given to nuclei? 2. If so, should drone and worker comb respectively be given at the same time as queens were introduced? 3. Do you think I, as a novice, could manage on these lines? I have plenty of time, and live in a good bee-district. I enclose my card, and, thanking you in anticipation for your reply, sign—Amug, Bentley, November 2.

Reply.—1. Preparation for Carniolan queen-rearing by means of introduced queens should have been made this autumn. It would be possible to do it as you propose if you can get queens early enough in the season to have some chance of getting early drones, and do not mind the extra cost this would entail. For drone-rearing, a strong colony must be selected, and stimulated early so that drones should be hatching in April before any common drones are on the wing. To ensure this a queen not less than a year old should be at the head of the colony by the beginning of March. Queens as a rule are not sent out before April, so that you would have to purchase a Carniolan colony in order to obtain the queen. The same would apply to rearing the queens from worker-eggs, except that a younger queen should be introduced about the same time. 2. Yes: see "Guide Book," pages 124-125. 3. If you follow implicitly the instructions in "Guide Book," there is no reason why you should not succeed as others have done; but we would recommend you to introduce young Carniolan queens to your seven hives next season, and defer rearing queens from any of them until the following spring, when you would have a better chance of securing fertilisation of the queens by Carniolan drones.

[3837.] *Fogs Detrimental to Bees.* I should be glad to know through the B.B.J. to what extent, if any, fogs are detrimental to bees. Where I am situated, from now onwards we get heavy mists each evening; this year particularly so. I see nothing in the "Guide Book" in reference to this, and if anything can be done for the bees' welfare during winter other than sending them to the South of France. If you can suggest anything for the benefit of other bee-keepers similarly afflicted, I personally should be glad to profit thereby. —K. H., Sheffield, November 2.

Reply.—There is nothing to fear from fogs if the hives are well protected and warmly covered, allowing for ventilation without draughts. There are a good many successful bee-keepers in your neighbourhood, and we have never yet heard of any complaint with regard to fogs affecting the bees.

[3838.] *Insurance against Accidents from Bees.*—While attending the lectures of a county expert (Mr. J. Garratt, of Kent) I purchased two skeps of bees, one of which I had driven for me by another expert into one of Lee's "Alliance" hives. Unfortunately, the queen was not driven out, so that in due time, as stated in "Guide Book," I found plenty of brood where I did not want it. I placed small caps on the other skep, which gave me 29 lb. of honey. After reading up the "Guide Book" and your very valuable British Bee Journal I drove these bees and introduced them into a frame-hive on full sheets of foundation, and now, after feeding, I find they have ample stores for winter. I purchased one of Lee's "Alliance" hives, and made three of the same pattern, and, after visiting the Wye Honey Show, where I saw a "W. B. C." hive, I made one to that pattern. I have now five frame-hives, and have driven ten lots of bees, which have been put into those hives, and they are all doing well. I knew nothing about bees until this year, but am now very much interested in them. Unfortunately, I have one difficulty to contend with. My first hive is about 4 yards from the main road, while the others follow up in a line towards the house. There is a hawthorn hedge, 3 ft. high, between the road and my garden. Can you give me information respecting insurance against

any claim for accidents that might happen by my bees stinging horses or riders on the highway, as I presume I am liable if they do so? An answer through the very valuable columns of the BRITISH BEE JOURNAL will greatly oblige. I send name, &c., for reference, and sign myself—A BEGINNER. Little Chart, October 26.

REPLY. You can insure through the British Bee-keepers' Association to the extent of £20 in any one year, and full particulars, as well as forms of application, can be had by applying to the secretary, Mr. E. H. Young, 12, Hanover Square, London, W. The policies cover one year from March 25, and must be renewed. The insurance premium is 1d. per hive, with a minimum of 9d. Non-members of the B.B.K.A. or affiliated associations pay a small extra fee. The largest number of hives likely to be in the apiary during the year should be included. Nuclei, of course, count as hives. We should, if possible, plant some shrubs about 7 ft. or 8 ft. high close to the hedge, as the bees would fly over these and reduce the risk of stinging passers-by. The subject of insurance was discussed at the last Conversazione of the B.B.K.A., as is reported in B.B.J. for November 5 (page 442).

PRESS CUTTINGS.

BEES TAKE CHARGE OF A GROCER'S SHOP.

The bees have been deceived by the warm weather. At Stonehaven recently a large swarm of bees (which usually fall into their winter sleep about this time) escaped from some hive, and took possession of the inside of the window of a grocer's shop in the Market Square. The grocer and his assistants were at a loss how to deal with the intruders, until two experienced apiarians appeared upon the scene, who, after much trouble and careful handling, got the bees out to the fresh air.—*Yorkshire Evening Post.*

HONEY HOARD IN SUFFOLK.

A remarkable find has been made of a honey hoard in the gable end and roof of a house at Bradfield St. George, owned by Mr. F. Bullock, who has taken from it nearly two hundredweight of good honey, mostly of fine colour. Bees must have been hiving there for a considerable time before this rich store was discovered.—*Standard.*

COTTAGER'S TON OF HONEY.

The annual report of Mr. Cardell Williams, bee-expert to the Cornwall County Council, states that a great improvement is apparent in the industry during the present year. He considers that none but intelligent people will ever become proficient in bee-keeping, and he does not recommend the industry to those who would be a drawback to what, in a few years, will be one of the staple industries of Cornwall. The year had been a successful one in stamping out foul brood, and about 50 per cent. had been eradicated in formerly infected areas. Last season was a most productive one, as was illustrated by the fact that one cottager produced over a ton of honey, for which he received £80.—*Standard.*

Notices to Correspondents.

MRS. L. E. HAMILTON (Cornwall).—1. The bees sent are workers, and when received were covered with chocolate powder. 2. The secretary of the Cornwall Association is Mr. T. R. Polwhele, Polwhele, Truro.

J. PEARMAN (Derby).—*Section-holders on the Show-bench.*—The term "section-holder" used in connection with show schedules may mean any suitable appliance in which one or more sections can be encased for exhibition on the show-bench. The idea is to have comb honey in sections protected from bees, dust, and damage when being handled or inspected by judges and visitors. The comb must, for obvious reasons, be glassed on both sides when staged on the show-bench.

F. L. (Haverfordwest).—*Honey as Medicine.*—It is generally admitted that the health-giving properties of honey render it the first of all Nature's sweets, while it has none of the injurious properties of ordinary sugars. The booklet "Honey and Health," to be had from this office (price 6½d., post free), treats fully on the subject on which you require information.

Honey Samples.

B. S. (Farnley).—Sample sent is from heather (*Calluna vulgaris*), or common ling. It is of fairly good quality in all respects.

COADFORD (Wiltshire).—The honey sent is fully ripened, and as a granulated honey will keep well. We cannot account for the yellow colour of your sample, but it is of good quality and from mixed sources.

G. T. B. (Beccles).—No. 1 is good in flavour and consistency. It is mainly from clover. No. 2, though not equal to the first sample, is fair in quality.

C. H. (Kent). Sample is of poor quality, being coarse in flavour and aroma. It is not at all suitable for table use.

Suspected Combs.

R. L. Comb sent is not affected with *Bacillus alvei*, but contains the milder form of disease known as black brood.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

PURE ENGLISH GOLDEN 1908 HONEY, Granulating, 60s. cwt., purchaser provide tins; in 28 lb. tins, 15s. 6d., on rail. Sample 3d. Cash or Deposit.—BOGGIS, Apiary Cottage, Gelderston, Norfolk. 1 89

LIGHT HONEY FOR SALE, in large or small quantities, granulated or carefully reliquefied, at 56s. and 60s. cwt. — CHARTER, Tattingstone, Ipswich. 1 87

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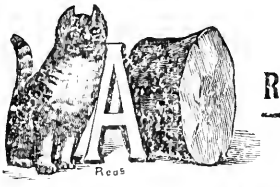
NEW  READY

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THE

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR

OFFICE 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

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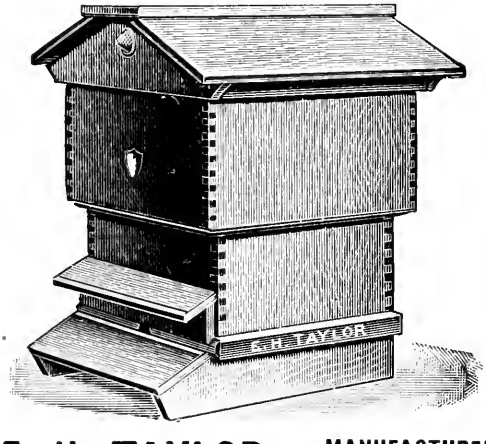

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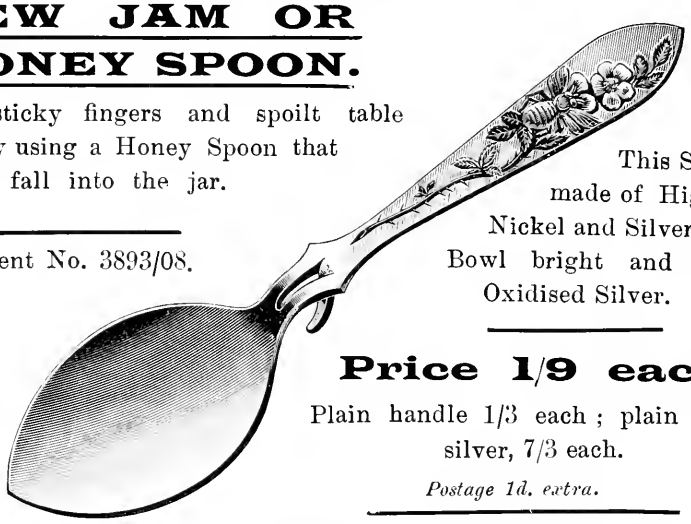

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Editorial, Notices, &c.

DEATH OF MR. GERARD J. YOUNG.

The personal sorrow we felt on receiving the following letter will be shared by the large number of bee-keepers in the Midlands to whom Mr. Young was known and esteemed for the cordial and active interest he took in the association of which he was chairman, and in the general good of bee-keeping at all times. On behalf of the craft we offer the deep sympathy of our readers, along with our own, to the members of the deceased gentleman's family.

DEAR SIRS,—It is with the greatest regret that I send you the sad news of the death of Gerard J. Young, Esq., J.P., Kingerby Hall, Market Rasen, chairman of the Lincolnshire Bee-keepers' Association, which occurred on the 3rd inst. after a very brief illness. Mr. Young was chairman of the association for nearly twelve years, and rarely missed a meeting during the whole of the time. It may be said that the association owes no little of its success to the able guidance and wise counsel of its late chairman, and his loss to the committee will be irreparable. He was a successful bee-keeper until a few years ago, when, on his removal to Kingerby Hall, his bees contracted foul brood from a neighbouring apiary. It will also be recollected that Mr. Young acted as steward of the bee and honey department of the "Royal" Show held at Lincoln in 1907.—R. GODSON, Tothill, Alford, November 13.

HONEY SHOW AT SPALDING.

The annual exhibition of the Spalding and District Chrysanthemum and Horticultural Society was held at Spalding on Thursday, November 5, and for the first time a section was devoted to honey and wax. The entries totalled thirty-seven, and were principally from local bee-keepers. The addition of honey, &c., to the event proved a great attraction, and will do much to encourage the craft in this neighbourhood. The Rev. H. Larken, Cowbit, kindly undertook the office of judge, and made the following awards:—

Six 1-*lb. Jars Medium Extracted Honey* (members only).—1st, H. Willcox; 2nd, A. K. Maples; 3rd, W. J. Mouncy.

Six 1-*lb. Sections*.—1st, W. J. Mouney; 2nd, A. K. Maples.

Six 1-*lb. Jars Extracted Honey* (open class).—1st, W. Patchett, Cabourne; 2nd, F. Harris, Sibsey; 3rd, G. Richardson, Spalding.

Beeswax (open class).—1st, F. Harris; 2nd, H. Willcox; 3rd, W. Patchett.

Six 1-*lb. Jars Medium Extracted Honey* (members Lincs B.K.A.).—1st, H. Willcox; 2nd, W. J. Mouncy; 3rd, T. K. Hancock.

Six 1-*lb. Jars Light Extracted Honey*.—1st, G. Richardson; 2nd, H. Willcox; 3rd, A. K. Maples.

Beeswax.—1st, G. Richardson; 2nd, H. Willcox; 3rd, A. R. Colam.—GEORGE RICHARDSON, Local Secretary, L.B.K.A.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[7277.] The present time of the year should be occupied by the overhauling of such notes on our management as have been jotted down during the busy season as useful points to be remembered in the coming year. These things, if left to the memory alone, are apt to be forgotten until similar happenings, occurring maybe a year hence, remind us that they might have been avoided by a little care and forethought. I therefore contend that every point gained or short cut to pleasurable and profitable bee-keeping should be taken note of ready for future use. Not only so, but bearing in mind that the general benefit of our craft should be the aim of every bee-man of the right sort, every item of use or interest should be chronicled in the pages of our own BRITISH BEE JOURNAL. Possibly in so doing we should get repetitions of items supposed to be new and original, that may raise a smile among older readers who have already seen the same ideas expressed in past volumes; but we have every year new readers, the old is ever giving place to the new, so that "repeats" to some may be of real value to others.

Packing Honey in Sections.—I was glad to see this matter discussed at the Conversazione; it is a subject that never grows old, for every year we have new producers who are novices in the art of packing sections of honey for despatch to their customers, and every season we have accounts in the correspondence columns of the JOURNAL and in conversation with others in the craft one learns of smashes of comb honey in transit by

railway. But occasional breakages will occur (fortunately very few) in spite of every care in packing, as a recent personal experience will show. After sending some sections to a town on the South Coast, I got a complaint from a customer couched in the following terms: "Very sorry to say that thirty of the sections in one of the three cases were broken in the last parcel you sent us." Those in the other two cases were in good order, yet all three cases were packed exactly alike, strong handles being, as usual, provided for easy handling of the packages by porters, and a "Don't jar" label on top and on sides of each case. This breakage points to gross carelessness of the railway staff. I have sent large parcels to towns in the North of England and South of Scotland which have arrived in perfect condition.

I have more than once given my method of packing sections for transit in past numbers of the B.B.J., and for the benefit of new readers it may be useful to repeat it. First, then, I tie up the sections in paper parcels in lots of six, more or less, according to size of the packing-case employed. For preference I use Tate's cube-sugar boxes, and always put strong cord handles at sides for lifting by. These boxes hold five dozen sections, which are placed on a layer of straw covered with a little hay, on which are set two parcels, ten sections in each. These are nicely packed on all sides, and another layer of hay laid above them, and two more parcels laid on as before, the process being repeated till the box is filled with sixty sections. More hay is laid over all, and the lid nailed down and labelled "Don't Jar. Comb Honey. This Side Up," in very bold letters in red ink on a white ground. One- or two-dozen parcels I pack in various-sized used boxes, and tie with strong cord to lift by. Thus packed I rarely have sections broken in transit by railway companies.—W. Woodley, Beedon, Newbury.

THE ISLE OF WIGHT BEE-FUND.

[7278.] Now that the bee-season has come to an end, and one has more leisure and less work, I send a few lines on behalf of my fellow-islanders and myself to express the gratitude we feel towards all who have helped to make the Isle of Wight Bee-Fund the success which it has, so far, proved to be. It will be remembered that at the end of last winter the bee-keeping industry on the whole island was so completely annihilated that not more than about twenty stocks were left alive, apiary after apiary having been swept away, leaving whole areas in different parts without a single bee. The idea of a fund for restocking the island originated in a communication from Mr. L. S. Crawshaw which appeared in the B.B.J. of June 13, 1907. Considerable discussion followed in the columns of the B.B.J., culminating in numerous offers of assistance. We cannot overestimate the great help rendered by Colonel Walker, who not only assisted financially but by becoming the hon. treasurer. His influence spread confidence among those willing to help. Mr. J. Silver, of Croydon, undertook the task of organising his visit to the island last year, giving him a first-hand acquaintance with our position. One of the duties which fell to my lot was to see that every precaution was taken and that apiaries were thoroughly disinfected. We insisted on hives being properly cleaned and then charred out with hot flame, old quilts burnt, the ground limed or a fresh spot chosen, and that all packages in which bees had been sent were retained in the island. In the spring it was difficult to procure good stocks, and swarms were very scarce; indeed, Mr. Silver says that, owing to disappointment in swarms, it entailed a lot of extra work. However, in spite of difficulties, bees gradually came over the Solent from different parts of England and Ireland; about sixty lots in all have been sent to the island in connection with the fund. These were placed about in different parts of the island, care being taken that no two lots from the same district were put near together. Four of this number were practically ruined on the journey, while some of the earlier lots have swarmed and have now increased to nearly seventy stocks. Up to the present every colony, whether stock, swarm, or driven lot, sent since the fund was initiated early in the year is doing well, while some of the early arrivals have yielded a surplus of honey, in one case the take being sixty 1-lb. sections. The importation of these bees has also led to a general clearing-up of infected matter. Hives have been thoroughly disinfected and old combs burnt. The average bee-keeper is taking a much greater interest in his bees than formerly, and there seems to be a general improvement all round. Others, too, seeing the bees apparently doing well, have sent and purchased stocks, in every case, I believe, followed by good results. In one instance, a single bee-keeper imported as many as seventeen stocks. Although at the present moment all appears to be going on fairly well, it is too early to judge results; for this we must wait till the spring. Various methods of wintering are being adopted at the suggestion of Mr. Silver and others, from which we hope to obtain valuable experience. In spite of the number of experiments tried during the past two or three years, we

are as yet utterly unable to give any reliable explanation of the cause of the Isle of Wight bee-disease, or to prescribe any effectual method of curing it. Mr. Silver, however, claims to have discovered a mode of treatment which he thinks will be successful, but confirmation is wanted whether the cures his method has effected were cases caused by heat and foul air or a real Isle of Wight malady.

Your readers will be glad to learn that, thanks to the impetus of the Isle of Wight Bee-Fund, the present feeling is one of hope and the promise of brighter things, and if these stocks come through the winter well there will be a big boom in bee-keeping next spring in the island.—H. M. Cooper, Thorley, Isle of Wight, November 10.

P.S.—Although it will be seen from the foregoing report that we take an optimistic view of the future, it is by no means intended to imply that the disease has died out. There will be plenty of time for "hallooing when we have found the way out of the wood." At present we are quite as much in the dark as ever. It is, however, a good sign that so many, including the Board of Agriculture, are earnestly endeavouring to shed light on the strange malady, and we hope and trust that the efforts may not be in vain. With regard to the letter by your correspondent R. Shannon (B.B.J., November 5, page 446), suggesting artificial poison as the cause of the disease, it may interest him to learn that that question was thoroughly gone into and the theory exploded before he came to reside in the island. In the case he mentions the bees may possibly have been killed by poison. His informant has also stated that numbers of the dead bees still had their pollen-baskets loaded with pollen from the charlock flowers. With perhaps more experience of the disease than any other man, I have never yet seen a diseased bee with pollen on its legs. They drop and die on coming from the hive, not when returning from foraging. As Mr. Shannon travels about the island he will come in contact with others in whose minds there is *absolutely no doubt* as to the cause. In some cases it will be sea-fogs, another will blame the petrol-laden motor dust. The fact of the man who enlightened Mr. Shannon having lost thirty stocks in no wise places him in the position of a teacher whom we must all follow. Some have lost a great deal more than double that amount, and yet are still quite as ignorant of the cause of it all as they are of any reliable remedy. Those who have been studying the whole matter from every standpoint are just beginning to realise how *little* we really do know or understand.—H. M. C.

OUT-APIARIES, ETC.

[7279.] My invitation to experienced bee-men to ventilate the pros and cons of out-apiaries has so far only brought one response, and I wish to thank your Cheltenham correspondent for the useful information he has given.

I note his advice regarding choice of site, and in general I gather that the "pick" of positions are usually on the various ranges of hills scattered throughout the kingdom, especially where the land is cultivated with a variety of pasturage. These desirable conditions are often too far off to be available, so the only thing left is to choose the best that are within reach. I had hoped that by introducing this topic a useful discussion would follow in the pages of the B.B.J., but for some reason even bee-keepers possessing out-apiaries seem reluctant to recommend them.

Another matter of great importance, especially to owners of out-apiaries, is the much vexed question of non-swarming hives. Much has been written by men eminent in the bee-world on this subject, and various other methods of swarm-prevention, such as swarm-catchers, have been advocated, but in practical use there is always something wanting. The matter was dealt with exhaustively in the B.B.J. twelve years ago (in 1896), but I have no doubt something of practical use has been discovered since that time. Still, the question remains with us, What is the best non-swarming method or hive in practical use?

Methods requiring much manipulation defeat the object in view, because of the labour involved, difficulty of economic management, commotion of colonies, &c., and I contend that a satisfactory non-swarming method should dispense with all these objections.

I tried the doubling system last season, making four stocks into two, with twenty brood-frames each. Notwithstanding my precaution, one of them swarmed, though it had one super on in addition, thus making the cubical contents of hive 3 ft. 1 in. On making up the stock into nuclei, I found seventeen out of twenty brood-frames full, mostly of brood, the other three frames containing pollen and honey; but the super (full of drawn-out combs) had only just been accepted, and there was no warning of further room being required. The doubling method certainly retards swarming, but is not an absolute preventive.

I am inclined to try a new plan next season on the doubling principle. I have in my possession two double hives of the "Wells" type, which have hitherto been fitted with a fixed division-board. I find they have many objections for working in

their present form, and I therefore propose having a movable division fitted between the two stocks, which can be removed when the stock-box is full of brood and bees. When the honey-flow is about to commence, allow one queen only to take to the whole hive, utilising the queen removed wherever required: this should prevent the swarming of both colonies, whose energies will be spent in surplus-storing. By the end of the season the stock will be down to the normal condition of one colony, and in consequence will be more easily manipulated. I am hopeful that this plan will be of practical advantage, and not turn out to be a theoretical myth like many of the complicated arrangements which have been tried.

It is evident that improvement in the present non-swarming method is still needed, and an invention which will dispense with much of the manipulating and the use of too many brood-combs which eventually become pollen-clogged would be a boon to the industry.

On looking up my old B.B.J., I notice a system advocated by Mr. H. Seamark—viz., a box of dummies fitted ⅜ in. apart, ventilated at the back, and placed under brood-chamber. Is this system still in use, or has it been tried and found wanting? At any rate, I think we ought to be a little ahead of methods in use twelve years ago.—G. W. Smith, Swindon.

[It has dropped out of use.—Eds.]

HONEY AT SCOTTISH SHOWS.

RIPENING HONEY FOR THE SHOW-BENCH.

[7280.] Some time ago I attended a honey-show in Scotland, and in the course of tasting several samples of "run or extracted honey other than heather," I noticed that some exhibits in this class were thin, others being fairly thick, but the prize lot was so dense in consistency that a honey-taster could only be pushed into it with difficulty; in fact, so thick was it that by no possible means could the honey be put into the jar unless first heated in some way. This leads me to observe that we have bee-men advocating the keeping of honey in the hive as long as possible, in order, as they say, to ripen it. Now that is all well and good so far, but I contend that leaving it in the hive would be perfectly useless, so far as regards securing the abnormal thickness I speak of, unless something more was done. The question therefore arises: What is this something more? To prove that some process must be gone through before honey reaches the condition to which I refer, I confidently assert that no extractor ever made would remove it from the combs, and that convinces me that a process of ripening or thickening honey for the show-bench (call it what you will) must be used. I have read the B.B.J. for some years, and I never yet saw any formula given in its pages that touched on the point of artificially ripening honey.

I write this in the hope that some of our leading honey exhibitors will shed a little light on a subject that seems to be regarded as a trade secret. I remember asking a prominent exhibitor for a little information on this matter. The only reply I got was that he "had a deuce of a job to get his honey into the jars; it was so thick he had to sit up till well on in the morning before he got it finished." But my friend was "a Scotsman," and I did not believe him; so I write trusting some abler pen than mine will support my contention.

Would it not be a good thing (for novices especially) if the B.B.J. gave a few hints anent preparing run or extracted honey for the show-bench, saying whether it is better to let the honey in the combs strain through muslin or cheese-cloth, or remove it by means of an extractor, although, as already said, an extractor would be powerless in a case like the one in question, so that a heather-honey press would need to be employed for removing clover-honey from the combs. I might also ask whether there is any artificial method of thickening honey, either before removal from the comb or after that process; for I take it that our worthy Editors must be aware of the conditions mentioned.

What makes me write on this matter is the query addressed to me at a show by a novice the other day, who said: "Is there not an awful lot of faking about that honey?" Looking at it from his point of view, it appears to me that the beginner to whom I refer is likely to get a bit disgusted with the whole business of exhibiting, and yet be no nearer to obtaining success on the show-bench himself unless taken in hand by some kind friend, or he receives an inkling of the truth from the pages of your valuable journal. So in the interest of this class I send this letter. Name, &c., enclosed for reference. —Smoke, Scotland.

[Our personal experience leads us to think that too much importance is attached to density (or "thickness") at shows in Scotland in judging extracted honey. As a matter of fact, we remember, while present at a show held in Edinburgh some years ago, being told of a certain well-known judge who rarely took the trouble to remove the screw-cap from a jar when judging a class for extracted honey, but simply inverted the jar, and gave his award according to the density of the exhibit. On the other hand, we cannot understand what objection can be

taken to an exhibitor using any legitimate means of ripening the honey he selects for the show-bench, as a good bee-keeper will take care that the thin, or unripe, portion of his extracted honey is carefully put aside (to be used for bee-food) when preparing his crop for the market. In the "Guide Book" (page 87) will be found instructions for ripening honey for the market, and in the earlier editions of the same work there appears an illustration of a honey-ripener designed by the author, in which the honey was allowed to pass over a metal surface heated by hot water. By this means the superfluous moisture was got rid of and the density of the honey greatly improved in the process. It is therefore probable that the same idea, in some form, was carried out in the case our correspondent complains of, and where "thickness" or density is deemed all-important, as it appears to be at Scotch honey-shows, the "ripening" process may readily be overdone. A competent English judge, however, would, we think, never be misled by such practices, because honey cannot be overheated without losing the delicate flavour characteristic of really good honey, which is absent when the product has been tampered with.—EDS.]

BEES IN THE NORTH.

SOME NOTES ON THE HEATHER SEASON.

[7281.] I beg to send a few notes concerning the season now ended in this part of the North, which may prove interesting to B.B.J. readers. The season of 1908 cannot be said to have been anything but disappointing from the bee-keeper's point of view in this district. The year commenced very wet and stormy, the bad weather lasting well into the month of May, and those who did not get their stocks fed up in the autumn of the previous year lost in consequence a good number this spring. In late May and June the weather became very fine, and the bees made good progress. But the meadows came on as rapidly, and before stocks were strong enough to store surplus the clover was cut, and we consequently lost the main source of flower-honey in these parts. Swarming was late and very erratic. In some apiaries, mine included, swarming was in full swing as late as the last week in July. The autumn has been very hot, and after heather-work was over the bees could not settle down on account of the heat, and I was surprised on the morning of October 1 to see a small swarm issue and alight on a branch for a few minutes; it then took flight and was lost. With regard to the heather season, at first the prospects were exceedingly good; during the first week the bees revelled among the heather bloom from early morn till sunset. But this did not last long. The weather became dull, and eventually turned to rain, which continued at short intervals for about three weeks, completely spoiling what might have been a record take of heather-honey with many bee-keepers. In spite of the weather a few bee-men did very well, but, taking it all round, heather-honey seems scarce. One or two buyers have told me that they could not get anything like the quantity of sections needed to supply the demand. I notice that 1-lb. heather sections are selling at from 2s. to 2s. 6d. in Newcastle in most of the shops. No wonder that the *producer* is envious when he sees such prices obtained for his produce. He, poor fellow, is lucky if he gets 15s. or 16s. per dozen for his first-grade sections. While on the subject of heather-honey, I think Northern bee-keepers, in order to get the fullest benefit from the heather, will have seriously to consider different methods from those employed when working for flower-honey. It is a well-known fact that bees in autumn contract the brood-nest, and consequently diminish the population just when strong young worker-bees are most wanted for work on the heather, and, apart from that, they are apt to clog their combs with honey. The best plan, therefore, to my mind, is to use the "Divisible" brood-chamber hive, and, so far as I can learn, its adoption by one or two enthusiasts in the North has proved successful even in the bad season just passed. Those who have tried this hive might favour readers with their experience of it. Then there is the method of the famous Matthew Pile, who was, I believe, gardener to the Earl of Ravensworth, and who published an interesting book in 1838 on bee-keeping adapted to the Northern counties. Stocks ought all to be packed down for winter with a good weight of stores and headed with young queens, with (for those who prefer it) a cake of candy (on top of frames), and no one need then fear the bees coming well through the winter and emerging strong and vigorous in 1909, which we all hope will be a glorious year for all bee-men.—W. S. WATSON, Co. Durham, November 2.

LARGE "TAKES" OF HONEY.

[7282.] The past season appears to have been a strange one as regards the yield of honey. A lady friend assured me she had taken 83 lb. of comb-honey, and had two swarms from one stock of Italian bees this summer, most of the surplus being gathered in August. From

both north and south come reports of a good honey year, but here in Staffordshire and Derbyshire the bees in many cases have not been able to gather sufficient to live upon. My own bees gathered nothing from clover and very little from anything else, and my "take" averaged 10½ lb. per hive, with next to nothing left in brood-nest, so that they have had to be entirely fed up for winter. It is the same with every bee-keeper in this district. Last year was very bad, but this is far worse, and there will probably be numerous deaths of stocks from starvation during the winter and early spring. I am glad to read of such results as those mentioned by Mr. A. W. Salmon (7274, page 456). Bees in my district never obtain anything approaching such quantities; indeed, I should be very willing to contract with anyone to have my whole crop for 35 lb. per hive for seven years, with no swarms. Still, I know results are very different in some districts.—THOMAS HARPER, Uttoxeter, Staffs, November 14.

HONEY "TAKES" IN SUFFOLK.

[7283.] I have read with some amusement the letter of your correspondent Mr. Salmon (7274, page 456) in reply to my previous one, and he appears to me to "bite" a little. Why does he rush to the sugar-bag? I did not doubt the quality of the honey stated to have been procured, but the quantity. I perhaps ought to apologise for daring to write in such a manner. I might have done so had I known I was addressing so prominent a person. However, I am alive to the fact that I must be losing heavily both commercially and mentally by not being able to avail myself of the wonderful methods which he has definitely stated he intends to keep from me. Mr. S. accuses me of being otherwise than courteous, but he evidently is not an adept in courtesy himself when stating that I am living a "parasitic existence." Perhaps, after all, he is to be excused, as, looking down from his exalted position, things may appear to him different from what they are in reality, and therefore we must weigh his statements ourselves, and judge as to which we shall add to and from which subtract.—H. WILCOX, Olton.

[While averse to withholding letters of personal rather than general interest, we regret to see correspondents occupying our very limited space in mere retort as above. Not only so, but the information given by Mr. Salmon in recording the "takes" of honey secured this year by members of the B.K.A. of which he is hon. secretary and expert is of use and interest outside his own county, and can no doubt be verified by the members concerned.—EDS.]

BEE-STINGS.

[7284.] The subject of "bee-stings" being at present before your readers, it may not be out of place for me to recommend a "cure." I am one of those unfortunate bee-keepers who suffer greatly from stings, and after trying various remedies find nothing answers so well as an application of Coutts's acetic acid, repeated if necessary. I have used this acid in place of carbolic, on a cloth, for manipulating, and it has the advantage over carbolic that it does not taint the honey. A little of the acid rubbed on the hand before opening a hive makes the bees less likely to use their stings. I have also used this acid in place of vinegar in preparing syrup for feeding purposes, and found it answer very well. I refer to this acid in my little booklet "Honey and Health," and if any of your readers wish further information I shall be pleased to send them a pamphlet on the subject if they will enclose a stamped envelope.—ARCHIBALD HOPE, 31, Newhall Street, Macclesfield, November 13.

STING REMEDIES.

[7285.] It may interest some of your readers to know, while on the subject of stings, that "Homocea" is an excellent remedy if applied quickly, and is very portable. I find practically instant relief from its use. I send name, &c., for reference.—E. C. S., Leeds, November 12.

WINTERING BEES.

[7286.] The writer of a query signed "Country Mouse" (3831, page 449) has kindly drawn my attention to your reply, and, on behalf of beginners in our craft and appliance dealers, may I be allowed to point out a possible misconstruction which might be placed upon your reply, which says: "There should be no occasion for putting candy on the hive for wintering bees, as they ought to have been fed up sufficiently to supply them with all they require until spring." Then, I would ask, why do the hive manufacturers who advertise in your interesting journals directly November arrives commence their advertisements with "Do not let your bees starve," and why, if you pick up a copy of the November issue ten years old, do you find the same advertisements? Also, how do you explain the fact that last season our firm, though, comparatively speaking, beginners as bee-appliance dealers, sold upwards of a quarter of a ton of candy, of which by far the larger proportion was bought and sold before Christmas? As an unsuccessful candidate for the third-class expert's certificate, may I, in all humbleness, say that in my opinion the whole question

turns on the word "ought"? The weather ought now to be cold and foggy, bees ought now to have commenced their winter sleep, but years of interested observation of the weather proves that here in the Midlands we often get a short sharp spell of cold weather, and then more or less mild weather right up to Christmas; in fact, I am sure it would be an interesting point if those whose memory goes back many years would say if seasons have changed during their lifetime.

I am not a poet, otherwise I should like to write a poem in praise of candy. If weather is cold it assures the bee-keeper that plenty of food is within reach of the bees, without disturbing the hive during the dead season (see page 207 of "Guide Book").—T. N. HARRISON, Carrington, Notts, November 16.

[We fully appreciate the force of our correspondent's remarks from the advertisers' point of view, and we are always glad to see beginners and careless bee-keepers forcibly reminded—in our advertisement pages—of their shortcomings in not seeing that bees go into winter quarters so well supplied with sealed stores that no candy is needed. This does not, however, make it less true that bees "ought to be fed up," &c., as stated in our reply.—EDS.]

A LADY BEGINNER'S REPORT.

[7287.] Seeing the interest of your readers in honey "takes," I am sending you my experience in that line. I commenced bee-keeping in June, 1907, with a swarm, from which I had no surplus that year. In the following September I purchased a stock, and last May hived a swarm from the original stock I started with. My surplus this year from the three hives has been as follows: From the 1907 swarm I took fifty 1-lb. sections, and the same number from the 1908 swarm, the 1907 stock yielding eighty-nine sections, making in all 189 sections, besides some partly-filled ones. I consider I have been very fortunate for an unassisted beginner, and would like to have your opinion thereon.—MARY LEICESTER, Emsworth, November 10.

[We think you have done very well indeed and promise to occupy a prominent place among our lady readers who are bee-keepers.—EDS.]

THE SEASON IN ABERDEENSHIRE.

[7288.] I enclose a short report of the past season, giving our experience in East Aberdeenshire. Bees were mostly in a weakly state in the spring, and took some time to build up to strong colonies. Those that came on first in point of strength gave a good account of themselves; but the honey-gathering time was very short, and the weaker colonies yielded only a little surplus, but are well supplied with stores for winter. Honey has been readily sold at good prices, the quality being excellent.

I was greatly astonished to see so few wasps in the autumn, as queen-wasps were very numerous in spring. I do not think I saw more than a dozen queens in autumn, though they were to be seen by the score in spring. I destroyed a good few myself, but of course could not have killed them all. I have wondered if it is possible that they were not fertilised last year, and were unable to start a nest on that account. I should like to know how other districts in Scotland have fared.—ALEC. LOW, Newmachar, N.B., November 14.

THE SEASON IN GLOUCESTERSHIRE.

[7289.] The honey season has been very poor in the Severn Valley district of Gloucestershire, but I hear that bee-keepers located on the hills have done better. It is gratifying at the same time to hear that in other parts of the country good "takes" have been secured, though it makes one rather envy our more fortunate brethren, seeing that this is our second bad season in succession. This year, however, is a little better than the previous one, and what honey has been gathered is of very good quality. Swarms have been rather scarce, owing to the spring months being terribly cold, with frost and snow in April and cold north-east winds all through May, which caused all stocks to be very backward in strength. Even when the orchards were a perfect sheet of bloom we had to feed the bees to keep them going; in short, we had some difficulty in keeping them alive. Then in June and July it was very hot, with dry winds day and night, so that the clover got scorched up, and the other flowers relied on for forage did not seem to secrete much nectar. My best "takes" were from the "Banat" bees; this is my first season with them, and the only fault I can find with them is their colour. They much resemble Carniolans, but do not swarm so frequently as the latter.—O. KNIGHT, Epney, November 14.

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. Macdonald, Banff.

Australian Honey.—The *Australian Bee-keeper* has had a prize competition dealing with this subject, and I make two short extracts, first on the *price* and second on the *quality*. The first prize

essayist "sits" upon the price offered (2½d. per lb.), and asserts that the "British public will not be able to taste much of my honey." The second prize-man, on the contrary, asserts, "It is a good price and satisfactory." No. 1 asserts that "the eucalyptus flavour only develops upon the palates of interested brokers," while No. 2 pleads, "It is regrettable that the blue gums yield a eucalyptus flavour, and the scrubs a tallow-flavoured honey." That confession rather claps an extinguisher on our friend Mr. Hamlyn-Harris's theory (see page 385). It is true that another writer in *Bee-keeper* (page 45) asserts that "the objectionable eucalyptus flavour is a myth"; but, again, to counterbalance this assertion Mr. F. W. Penberthy, who was lately visiting England, admits that his friends "could detect the taste of eucalyptus a little while after eating," so that it cannot be a *myth* if it was so readily detected.

Winter Entrances.—In the same paper we read, "It is my firm belief that more harm is done in winter by closing entrances too much to make bees 'snug' than through any other cause. Warmth at the expense of ventilation is a bad bargain. Bees can endure extreme cold if provided with plenty of stores and pure air." Dealing with the same subject, the editor of *Gleanings* has this to say: "The general consensus of opinion is in favour of a restricted entrance—say about 6 in. long by ⅜ in. deep. If the colony is not very strong, 3 in. long by ⅜ in. deep would be better. The latest tendency seems to be toward shutting out the chilling blasts, and at the same time allowing perfectly free ingress and egress." My own practice is to allow an opening nearly 6 in. long, covered with perforated zinc, in which a free entrance about 1 in. by ⅜ in. is cut.

Hive Records.—Mr. Hutchinson, in the *Review*, does not approve of a book record such as is recommended by Dr. Miller. "The only practical method is a record *on* the hive. An easy plan is to place a stone on the cover in such a way as to indicate the state of the colony. Some use a brick, and are able to give added meaning by laying the brick on its side or edge." The position of the brick on the hive-top shows at a glance, even at a considerable distance away, the exact condition of the interior. Stones or bricks are somewhat unsightly objects on hive-tops, and I would rather favour the book or record-cards for each hive; but in a large apiary a brick can be made to tell a long story.

Canadian Foul Brood.—Mr. Byer gives rather a melancholy picture of the devastation worked by what he calls black brood. "One yard of 110 colonies was reduced in a few months to twenty-three, another of 160 ran down to twenty-one, while a third of seventy-five went down to six. The men owning these apiaries were all first-rate bee-keepers." Some confusion seem to prevail still about the nomenclature of this disease, because the writer says, "We do dread this black brood, while we have no terror of the other type." Our Editors in last issue (page 460) characterise it as "the milder form of disease known as black brood," which is exactly my own idea.

Dandelion. — Quite recently many American authorities spoke in high praise of this flower as a honey plant. Dr. Miller, in "Stray Straws," says: "It was introduced here about sixty years ago, and now it is worth more than all other early yielders combined, leaving out fruit-bloom." I would be prepared in general to pretty well endorse this statement.

Shallow Supers.—On the other side, as here, these are becoming the all but universal receptacles in working for comb honey. Mr. Scholl produces quite a host of arguments in their favour, and the editor endorses these heartily. "These shallow supers are just right to put on colonies of moderate strength, and they are just right to give room gradually (to strong stocks) on the tiering-up plan. To give the full-depth super at one time is too big a jump, and, moreover, it is 'awful' to handle when full of honey. The tendency is more and more toward shallow supers for extracting, and we believe there is good reason for it."

Blacks.—A correspondent writes to the *Review*: "My yard would run half and half blacks and Italians. Now you would expect the Italians to show some superiority in amount of honey stored; but they *don't*. Some of the biggest stacks are on the pure blacks." The editor adds a note: "I have known for a long time that in a good honey-flow near home no strain or variety of bees can surpass the pure blacks." Although some saving clauses follow rather more sentimental than practical, it is refreshing to obtain such an emphatic testimony as the foregoing.

Honey as a Food.—Mr. W. K. Morrison writes: "Honey contains barely 20 per cent. of water; beefsteak, although more expensive, contains 65 per cent., and even then there is bone to reckon with. Anybody can see that at 18 cents per lb. the advantage lies with the honey. Moreover, honey will keep indefinitely, and even improves with age, whereas beef deteriorates in a few hours. Add on to this the fact that honey is a predigested food." The more we preach the virtues of honey

the better. Its good points, on knowledge gained, speak for themselves.

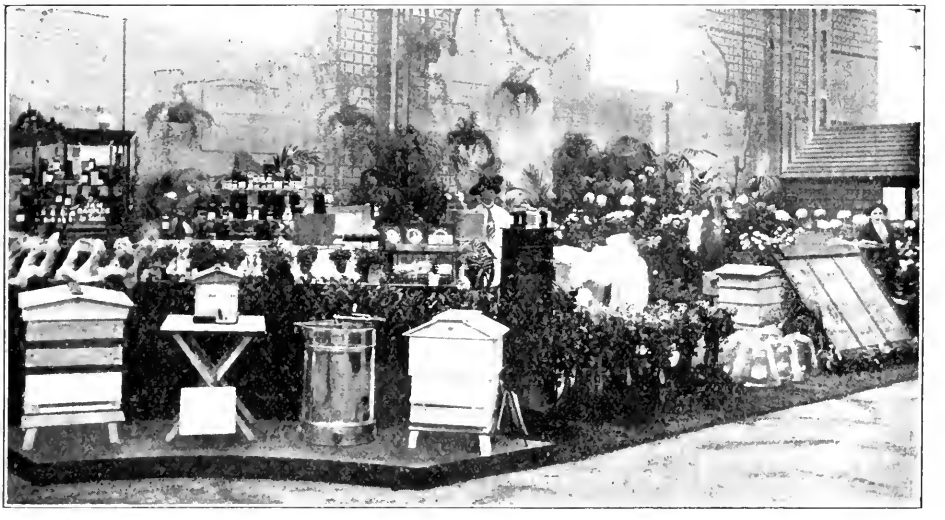
In Memoriam.—One of America's most successful bee-keepers and graphic writers has passed over to the great majority in the person of E. W. Alexander, of Delanson. The writer of the memorial notice in *Gleanings* concludes: "If I were to choose the epitaph to be placed on the stone to mark his last resting-place it would be this:—

His life was beautiful,
His work enduring,
His death triumphant."

The Spider Plant.—"The first two bees stayed one and a half minutes each, then the third bee stayed forty-eight seconds before it left the plant. I then took a glass medicine-dropper with a rubber bulb to it, and I drew the nectar from thirteen flowers, getting a teaspoonful in all." I sincerely wish we could import and successfully cultivate this plant in quantity. It is said to be very ornamental and fit to decorate the flower-garden. Is it grown in this country?

THE IDEAL HOME EXHIBITION.

At the Ideal Home Exhibition, held at Olympia from October 9 to 24, the bee-keeping industry was well represented. The Studley Castle Horticultural College occupied a large space in the garden section of the exhibition, on which they showed, among other interesting things, an observatory-hive and a large variety of honey. They also provided a special bee-tent, in which demonstrations with live bees were given by Mr. W. Herrod, instructor in apiculture at the college, assisted by several of the lady students, who drove the bees from skeps, capturing the queen and manipulating the bees in the most orthodox fashion. Messrs. Abbott Bros., of Southall, occupied a large stand, wherein were displayed various hives and bee-appliances, including the now famous *Daily Mirror* hives, together with their patent honey-spoons, garden tables, and other interesting novelties. The Lord Mayor, when opening the exhibition, spent some time at these two stands, and purchased a patent table-tray shown by Messrs. Abbott Bros. The tone block seen below (from a photo) shows a part of this firm's display and that of the Studley College. This exhibition seems to have been an abnormal success from the business point of view, Messrs. Abbott Bros. having, as we learn, over 3,000 cash sales during the comparatively short time it remained open. Judged by results, the Ideal Home Exhibition was one of the most interesting held in recent years; every stand showed some novelty, and every attendant had something interesting to impart to all inquirers.



BEE-EXHIBITS AT THE IDEAL HOME EXHIBITION.

Queries and Replies.

[3839.] *Starting Bee-keeping in Spain.*—I propose to commence bee-keeping next spring with one "W. B. C." hive, buying a skep of bees and putting it above the hive for the bees to transfer themselves below, as advised in the "Guide Book." I therefore ask: 1. Will you kindly tell me what you think of an "outfit" as per

enclosed estimate, which please return? Have I omitted anything necessary, or is there any not really required? 2. Is there any fear of the bees fixing the skep too tightly to the top-bars of the frame-hive to allow of its removal if left for, say, six weeks on the hive while the combs in the lower hive are built out? My fear is that the bees might propolise the skep to the cloth and the cloth to the frames. 3. What is an average price in England for a good skep of bees in the springtime? 4. About a mile away there are a lot of cherry and other fruit trees (peach, apricot, fig, &c.). Are they near enough to be useful to my bees? Replies to above will oblige. Name sent for reference.—Jota, Bilbao, Spain, November 10.

Reply.—Before replying to the queries enumerated above, we question the wisdom of buying a stock of bees in skep in England, bearing in mind the risk of safe transit to Spain and the inevitable expense connected therewith. If it were possible to obtain a good natural swarm of native bees within reasonable distance of your location, it would effect a considerable saving in cost and trouble in stocking the frame-hive with bees. This said, we reply to queries as follows: 1. The outfit as per list sent is a very full and complete one, and the items are all useful, though we seldom see flower-seeds for bee-forage included in an outfit. You might also save in price of packing-case if a rough, strong used box would suffice. 2. Not the least fear if the skep is not put on till the bees are seen to cover the combs from side to side. 3. You can see the "average price" of bees in skeps in England by referring to our prepaid advertisement pages, but it must be borne in mind that a stock intended for transit to Spain would need to have very tough combs fixed firmly to the skep by stout wooden skewers running right through the straw from side to side, and for such a special price would be asked. 4. Your bees would readily visit any bee-forage growing in quantity at the distance named.

[3840.] *Uniting Bees.*—Enclosed queen was cast out from the same colony I wrote you about some time ago. I drove a skep hive on October 31, floured each seam of bees in the frame-hive, then floured the driven bees, and ran them in at entrance. I could not find a queen in the frame-hive, but saw the queen of the skep when driving the latter. There was no fighting on the two following days, but on the morning of the third day the queen enclosed was found on the alighting-board not quite dead. Am I correct in supposing that the bees still have a queen in the frame-hive, and is that sent a young one? Or is it likely there would be two or more queens in the skep, as I saw five queen-cells in skep, one of which had a bee in it? There was also a patch of brood about 4 in. in circumference, and an empty queen-cell in the frame-hive. As the bees are very strong, should I leave them alone until spring, and then watch for pollen being carried in? An answer through B.B.J. will oblige.—G. R. Morley, Ansley.

Reply.—The queen sent was so crushed in the post as to make it impossible to judge of age, &c., but it is very unlikely that there would be more than one queen in skep at the date mentioned. We should follow the plan of leaving the bees alone till spring, as they are now strong in number, and then ascertain their condition with regard to queen's safety or otherwise.

Notices to Correspondents.

Carniol (Croydon).—*Buying Bees from Foreign Dealers.*—We think the trouble of which you complain arises in some measure from the dealer in question not being conversant with the English language. We have written the advertiser, and hope soon to hear that your just grievance has been attended to.

J. W. Moir (Edinburgh).—*Candy-making.*—1. Sample is altogether too hard to be of any use as bee-food, and having already been boiled twice over, it should only be utilised in making syrup for spring use. 2. Bought—or "ready-made"—candy will go as hard as that made at home when kept for any length of time.

B. C. (Hammerton, Yorks). — *Bro. Columban's Recipe.*—The sample made from recipe named—judged by its present condition—is excellent in all respects. Thanks for your warm appreciation of "Guide Book" and B.B.J. We are always glad to help in making good bee-keepers of readers.

Honey Samples.

Heather-blend (Cumberland).—The section of comb honey sent has, obviously, been either partly filled with clover honey when sent to the moors, or else the bees have been within reach of clover in bloom at the time and yielding more honey than the heather. This is clearly shown in the section before us, one corner of which is occupied with clover honey, while the cells in opposite corner—when uncapped—have the well-known aroma and flavour of "ling" honey (*Calluna vulgaris*).

R. P. (Talgarth).—In its present granulated condition your sample is quite suitable for showing.

*** *Several important letters, &c., are in type, and will appear next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

WANTED, Charge of Apiary, or other responsible position, by Second-class Expert; experienced joiner.—APIS, c/o B.B.J. l 68

WANTED, Heather Honey and Sections.—Price and quantity to CHAMBERS, Gothic Villa, Maybank-road, Woodford, Essex. l 92

£100 REQUIRED ON MORTGAGE OF LARGE APIARY, to increase same; good interest offered.—INTEREST, c/o BEE JOURNAL. l 97

"W. B.C." AND COMBINATION HIVES FOR SALE, CHEAP, well painted and in perfect condition, as good as new.—Full particulars on application, W. H. SIMS, Hall Green, near Birmingham. l 94

WANTED, EXTRACTOR, Cowan "Rapid" preferred, good condition, cheap.—TOWNSEND, Lydbrook, Gloucestershire. l 93

HONEY, First Quality Sections, 7s. dozen; glazed, 8s. 6d. dozen; cash with order. — R. COUSINS, The Rosary, Misterton, Gainsborough. l 98

FINE LIGHT HONEY, GRANULATED, ½-lb. Screw-cap, 4s. 3d. dozen; 1 lb. Nominal, 7s. 6d. dozen.—DEAN, Bower Vale, Epping. m 2

GOOD HEATHER HONEY, 9s. per stone; also few good secondhand "W. B. C." Hives, nearly new, complete with frames and racks, 9s. each, cost 21s. three years ago.—HARRISON, Farm, Middleton, Pickering. m 1

BARGAINS.—Husband left for Transvaal, must sell. 2 good Bar-framed Hives, on legs, painted, 4s.; others 2s. 6d.; "W.B.C." Section Crates, full frames, some foundation, 2s. 6d.; others, empty, 1s. and 9d.; Smoker, 1s.; 2 large "Bingham" knives, with lamp, heater, 3s. 6d.; Travelling Boxes, 2s. 6d., cost 5s.; Queen Excluders, 4d.; Feeders, 6d., 1s.; Queen Nursery and Cups, 2s.; Travelling Section Crates, 1s. 6d.; Slotted Metal Dividers, ½d.; Honey Bottles, 4d. dozen.—PADDOCK, Uppington, Salop. m 5

FINEST ENGLISH HONEY, 15s. per 28 lb. tin. Sample, 2d.—DUTTON, Terling, Essex. l 96

"BEE JOURNAL," December 5, 1895, to date, complete. What offers?—BONTOFT, Caterham Valley. l 99

WANTED, a few pounds Bees, with or without Queen.—KEATLEY, Fouroaks, Birmingham. m 4

MEDIUM COLOUR PURE ENGLISH HONEY, 2 gross ½-lb. S.C., 4s. 3d. dozen, f.o.r.; pure English Beeswax, free of refuse, 50 lb., 1s. 8d. lb., f.o.r.—SINFIELD, 26, Upper George-street, Luton. l 95

WANTED, large quantities of 1-lb. and ½-lb. Honey Jars, also Honey in Jars, 1-lb., ½-lb.; can take 200 lb. per week.—D. H. DAVIES, Bee and Honey Merchant, Cemetery-road, Ogmore Vale, Glamorganshire. m 3

LIGHT HONEY FOR SALE, in large or small quantities, granulated or carefully reliquefied, at 56s. and 60s. cwt. — CHARTER, Tattingstone, Ipswich. l 87

SELL FOLLOWING INCUBATORS: 200, 100, Cyphers; 100, Clive; 100, Tamlin; 50, Hearson. —HERROD, Apiary, Luton. l 59

SECTIONS WANTED. State price. Must be light and new.—THE HONIELADE CO., 23 Moorfields, E.C. l 90

"THE PREPARATION OF HONEY AND WAX FOR THE SHOW BENCH," post free 7d.—JOSEPH TINSLEY, Chebsey, near Stafford l 24

Special Prepaid Advertisements.—*Continued.*

WANTED, TO PURCHASE, CHEAP FOR CASH, Bound "Bee Journals," 1890 to 1905. Sell, or exchange years 1881, 1883. — HERROD, Apiary, Luton. l 58

JUST OUT, a new and improved Rapid Feeder, and as the price is only 9d., postage 4d., 10s. dozen, carriage paid, every Bee-keeper should try one; Hives at reduced prices, genuine "W. B. C." from 13s.—SOUTHERN BEE SUPPLY CO., Hellingly, Sussex. l 35

SECTION GLAZING.—Best quality Lace Paper, made especially for Bee-keepers' use, not common box edging, white, 100 6d., 300 1s. 4d., 600 2s. 3d., 1,000 3s. 9d., post free; blue, green, or pink, 100 7d., 300 1s. 6d., 500 2s. 6d.; Lace Bands, 2¾in., 3in., and 3¼in. wide, white, 100 1s. 2d., 200 2s. 3d., 500 4s.; a few in pink and blue, 100 1s. 4d., 200 2s 6d.—W. WOODLEY, Beedon, Newbury.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

BEE-KEEPERS' PRACTICAL NOTE-BOOK.

THIRD EDITION NOW READY.

Containing Rules for the General Management of Movable Comb Hives.

By THOMAS W. COWAN, F.L.S., &c., &c.

Price 1/-; Postage 1d.

BEE JOURNAL AND RECORD OFFICE,
8, Henrietta St., Covent Garden, W.C.

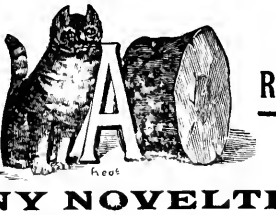
"WASTE NOT, WANT NOT."

TIME WASTED NOW WANTED AT SPRING.

Time has no back hair. Take him by the forelock, and make up our Hives, sent out in Flat.
Lantern Slides on Bees; Sale or Hire.
1-lb. Screw-cap Bottles, 13s. 6d. gross, to clear.
Extractors, &c., must be cleared.

Catalogues.

W. R. GARNER,
"Beatall" Hive Works, DYKE, BOURNE.

NEW  READY

MANY NOVELTIES.

Post Free on application.

MEADOWS, Syston, Leicester.

HONEY AND HEALTH.

By ARCHIBALD HOPE.

A Booklet which appeals to all Honey Producers.
PRICE SIXPENCE. Postage 1d.

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Sole Agent in Britain for CHAS. DADANT and SONS, the largest makers of

COMB FOUNDATION

in the world. (Sales for 1908, 125,000 lb.)

This Foundation is perfect, and unequalled for purity, toughness, regularity, transparency, and thoroughly sterilised of foul-brood germs.

BEES NEVER REFUSE IT. JUST TRY IT.

SAMPLE LB. IN BOX, POST PAID.

Prices: Brood 2/6; Super 3/- per lb.

SOFT BEE CANDY.

Quality just right, and in wooden box with glass cover.

Price:	6 lb., post paid	...	3/-
	12 lb., carriage forward ...	...	5/-
	28 lb., do. ...	...	10/-
	112 lb., do. ...	...	34/-

To the Trade only.

Now is the time to secure best terms for Sections, Frames, Hives, Dadant's Foundation, &c., to be supplied ex ship in spring. Write for Rock Bottom Prices, stating quantities required. Any special lines, if ordered at once, can be procured to customers' own specification.

1908 Catalogue on Application.

1909 Catalogue ready end of January.

Also Catalogues of Incubators and all Poultry-rearing Appliances.

JAMES LEE & SON, Ltd.

Royal Show, Newcastle.

We exhibited in four classes only, and were **Awarded Two First and Two Second Prizes.**

HONEY JARS, ENGLISH MAKE.

1-lb. size, one-gross lots 15/6, two-gross lots 30/-, including Tinned Steel Caps and Cork Wads. Large buyers write for prices.

The Celebrated No. 6 TRIANGLE HONEY JARS.

17/6 per gross, complete with Caps. ½ gross 9/6.

FRUIT PRESERVING BOTTLES.

Send for special Fruit Bottle List, post free.

SECTION CASES.

Glass both sides. Our cases are used very largely by exhibitors of Comb Honey. Send for large List, post free.

OFFICE AND WORKS: 4, MARTINEAU ROAD, HIGHBURY, LONDON, N.

TELEPHONE: 1362 NORTH. TELEGRAMS: "GRAPHICLY, LONDON."

Showroom: 10, SILVER ST., BLOOMSBURY, W.C. (Representative in charge is qualified to give advice.)

Bee Farm: FULBOURN, CAMBRIDGE.

LONDON: PRINTED BY L. UPCOTT GILL, BAZAAR BUILDINGS, DRURY LANE: AND PUBLISHED FOR THE PROPRIETORS BY SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO. LIMITED, 23, PATERNOSTER ROW, E.C.—NOVEMBER 19, 1908

NINETEENTH EDITION. 69th THOUSAND.

BRITISH BEE-KEEPERS' GUIDE BOOK.

By T. W. COWAN, F.L.S., &c.

Upwards of 150 Illustrations, including fine Half-tone Blocks from Photos.

Paper Covers, 1s. 6d. net; postage 2½d. Art covers, 2s. 6d. net; postage 3d. Cash with order.

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THE

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W. BROUGHTON CARR

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

REGISTERED FOR TRANSMISSION AS A NEWSPAPER.] [ENTERED AT STATIONERS' HALL.

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Put up in 1 and 2 lb. boxes with glass tops, or in 6 lb. boxes, 2/6 per box.

1 lb., **6d.**; post., **4d.** 12 lb., **5s.**; carriage paid **6s.**, or by post **6s. 6d.** 28 lb., **4½d.** lb.; carriage paid, **1s. 6d.** 56 lb., **4d.** lb.; carriage paid, **2s.** extra.

Above can be had mixed with Pea Meal, and also medicated, at no extra charge.

MEDICATED SYRUP FOR AUTUMN AND SPRING FEEDING.

7 lb. tins, **3s.**; carriage paid, **3s. 9d.** 14 lb., **5s.**; carriage paid, **6s. 3d.** 28 lb., **9s.**; carriage paid, **11s.** 56 lb., **16s. 6d.**; carriage paid, **18s. 6d.**

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Best Value Ever Offered.

Floor-board, Dovetailed Body Box with 1 in. thick Ends, Porch and Entrances, and ten Standard Frames; Dovetailed 9 in. Telescope Lift, which will tier-up two Racks of Sections; Roof, with Shallow Lift attached. Complete, **8/9**, or sent out in the Flat, with Frames, **8/3.**

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South African Agent, F. SWORDER, Box 322, JOHANNESBURG.

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OFFICE: 8, Henrietta-street, Covent Garden, London, W.C.

Correspondence: Whom to Address.—All matters relating to the Literary Department, Associations, Shows, &c., should be addressed "Editors, *British Bee Journal*," and all business communications and matters relating to subscriptions and advertisements to be addressed to the "Manager," *B.B.J.* Office.

Subscriptions. — Annual Subscription, 6s. 6d., post free, *in advance*; single copies, 1d., or 1½d. post free. If a receipt is required by post, a stamped and addressed envelope must be sent, otherwise a printed receipt will be enclosed along with the paper.

THE DEPOSIT SYSTEM.

British Bee Journal & Bee-keepers' Record.

OFFICE: 8, HENRIETTA STREET, COVENT GARDEN, LONDON, W.C.

In order to save trouble it is requested that the Rules be carefully read over by persons using the Deposit System of trading.

DEPOSITING.

1. Method.—When strangers are dealing together, the purchase-money of the articles is deposited at our office. We acknowledge receipt of the deposit to *both* parties, and hold the money until we are satisfied that the purchase is concluded. If a sale be effected, we remit to the seller the amount denosited, less a charge of 6d. and the expenses of Post Office Orders and postage, &c. Cash will be forwarded by Cheque, Post Office Order, or by Postal Order as preferred If a sale or exchange be not completed, we return the amount deposited, after making the same deduction. By this means buyers and sellers are secured against fraud.

2. Deposits.—Postal Orders (drawn on General Post Office) and Cheques must be made payable to "MANAGER, B.B.J.," and crossed "London and Westminster Bank." The numbers of the Postal Orders should be kept by the sender. We cannot be responsible for any losses that may occur in transit.

3. Honey on Approval.—All honey will be sold by sample, which must be sent direct to buyer.

4. Bee Appliances.—In ordering, the time allowed for completing the order to be stated to us when sending cash. If maker accepts, we hold cash till transaction is satisfactorily completed, when the amount will be remitted, subject to conditions as in Clause 1.

5. Bees and Queens.—These will be dealt with entirely by the parties concerned, so far as price, &c., go, and when the purchase is satisfactorily completed cash will be remitted as per Clause 1.

6. Goods in Transit.—These are at the seller's risk, *i.e.*, any damage to or loss of an article on its journey is borne by the vendor; but a rejected article must be properly packed and returned by the same means as was used in sending it.

7. Carriage.—The carriage of all goods, *except such as are sent by post*, is payable by the buyer, unless otherwise agreed. If any article sent on approval be returned, each party to the transaction must pay carriage one way.

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My very well-known Candy, in 1 lb., 2 lb., and 3 lb. Cakes, 12 lb. **5/6**, carriage paid; Rev. Bro. Columban's Devonshire Candy, in 1 lb. and 2 lb. Cakes, 12 lb. **8/9**, carriage paid, 24 lb. **17/-**, carriage paid.

Books on Bees and Lantern Slides a Speciality.

Machine-made **clear glass Honey Jars**, with hard bright screw-cap and cork wad, **13/6** gross. Large quantities much cheaper.

Autumn Rapid Feeders: Tin or float, **2/6**; Canadian, **3/3** and **4/-**

Honey Labels:—The most varied stock. Send **6d.** for good value in samples.

Excluders, **8d.**; Extractors, **15/-**, **23/-**, and **30/-**; Wax Extractors, **2/9**, **8/-**, and **10/-**; Ripeners, **8/-**, **11/-**, and **13/-**; Strongly-made Smokers, **3/-**; Veils, **1/-** and **1/6**; Super Clearers, **2/-**; Naphthaline, **6d.**; Naphthol Beta, **1/-**; Skeps, **1/6** and **2/-**; "Weed" Brood-Foundation, **2/6** lb., 5 lb. at **2/5**, 10 lb at **2/3**; English Brood-Foundation, **2/4** lb., 5 lb. at **2/3**; "Weed" Section Foundation, **3/1½** lb., 5 lb. at **3/0½**; English Section Foundation, **2/10** lb.; Shallow-Frame Super Foundation, same prices as Brood; Standard and Shallow Frames, **1/3** doz., **8/-** 100; Split Top Sections, **3/-** 100; Slow Feeders, **1/3.**

EVERY REQUISITE FOR SHOWS IN STOCK.

Seeds and Bees Limited.

Everything Bees want promptly sent.

PURE CANE SUGARS

FOR BEE-FOOD AND HOUSEHOLD USE.

For the accommodation of Bee-keepers, guaranteed Pure Cane Sugar will be supplied in large or small quantities through this office at the undermentioned **rates:**—

CRYSTALLISED.

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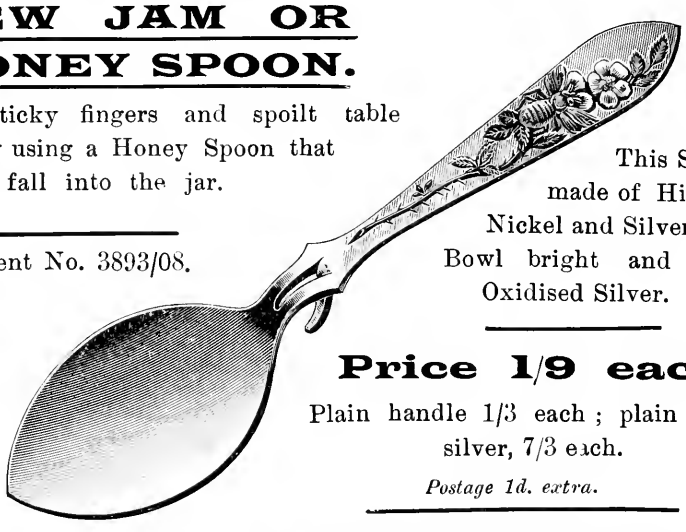

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held at 105, Jermyn Street, S.W., on Thursday, 19th inst., Mr. W. F. Reid occupying the chair. There were also present Messrs. T. Bevan, W. Broughton Carr, E. Garcke, J. B. Lamb, A. G. Pugh, G. H. Skevington, E. Walker, and the Secretary. Apologies for enforced absence were received from Mr. T. W. Cowan, Dr. Elliot, Miss Gayton, Mr. W. H. Harris, and Mr. J. P. Phillips.

The minutes of the previous meeting were read and confirmed.

Six new members were formally elected, viz.: Mr. Fredk. A. Allchin, Tredudwell, Fowey, Cornwall; Mr. J. G. Dalzell, Marlowe House, Dulwich Village, S.E.; Mr. Geo. Hulbert, Manor Place, Paddington, W.; Mr. S. Moxham, Fonthill Bishop, Salisbury; Mr. John Shand, Birley, Midmar, Aberdeenshire; Mr. W. G. Wells, Clapton Common, N.

The Finance Committee's report was presented by the chairman, and duly adopted.

The secretary reported the receipt, through Mr. Till, of an excellent and framed portrait of Mr. T. I. Weston, the late vice-chairman of the Council, which was gratefully accepted, and acknowledged to Mrs. Weston.

Reports upon examinations in Bedfordshire, Derbyshire, Staffordshire, Warwickshire, and Worcestershire were received, and, in accordance with the recommendations of examiners, it was resolved to grant third-class certificates to Messrs. H. C. Barlow, C. Knight-Coutts, E. Loxley, R. North, A. Llewellen Robinson, Arnold Richards, and Wm. Tinsley.

The secretary reported that nine candidates had entered for the second-class examination, and that the fixtures were in Essex, Kent, Bedfordshire, Derbyshire, Norfolk, and Worcestershire.

The Council then had before them for the "lecture test" the remaining candidate for first-class expertship.

The schedule of prizes for the "Royal" Show (bee-department), to be held at Gloucester in June, 1909, was drafted for submission to the R.A.S.E.

The next meeting of the Council will be held on Thursday, December 17.

A NEW UNCAPPING MACHINE.

While preparing for press an intimation has reached us from Mr. S. Simmins to the effect that he is about to bring out an uncapping machine on a new principle, which it is expected will be generally adopted for use in large apiaries where there is much work of that kind to do. The machine has been provisionally protected in England and other countries, and—as we learn—the inventor is having an illustration of it prepared for insertion in an early issue of the B.B.J.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

AMONG THE BEES.

HONEY IS MONEY.

[7290.] I have repeatedly asserted that apiculture is by far the best-paying branch of the *petite culture*. Year in and year out it pays as no other does. Some years the profits are relatively enormous; the years when the surplus does not pay a good percentage on the actual money invested are very few. Taken over an average series of years, the profits are something like cent. per cent. A "distressed cottager" or a "disappointed bee-keeper" may now and again sound a loud wail on the decadence of the industry, and frequently, no doubt, even enthusiasts are almost prepared to declare that honey-making, and therefore money-making, is fast becoming a lost art. Bad seasons like that of 1907 tend to damp the optimism of many ardent apiarian disciples, but the man who for one bad season would throw up the sponge is as well out of the ranks, and possibly if engaged in any other minor industry he would be quite as easily discouraged and dismayed.

Now if anyone who has read so far thinks I am going to exploit some El Dorado, or teach him that a fortune lies in a line of bee-hives, he had better read on no further, for not that way tends my argument. No gold-mine and no weighty purse need be looked for from the prosecution of apiculture. Further, the man who simply purchases hives of bees and then sits down to whistle on fortune will find that he has "paid too dear for his whistle." That is the very point where too many fail to make the industry a paying one. They are simply content to become keepers of bees, and do not even make an earnest attempt to blossom into bee-keepers, or, as the ancients loved to call them, *bee-masters*.

One or two concrete examples may be

worth reams of mere arguing, or even stating facts, in regard to the profits of the industry. A great lover of bees for about five years kept ten or twelve hives on the let-alone principle, but scarcely made a penny of profit. As his admiration for the intelligent creatures strengthened and his knowledge of their admirable traits increased, he woke up to newer and better principles of management, and now for some years his profits average from £10 to £20. Another bee-keeper well known to me increases his income yearly by an amount varying in bad years from £10 to, in good years, as much as £50, with an average for twenty years of over £25 of clear profit. Another, with only four frame-hives during the last season, increased the number to eight, and, moreover, secured 430 lb. of surplus extracted honey, which he sold at such a price that he had a clear profit of fully £3 per hive. That average is seldom secured, but a net profit of from £1 to £2 is almost a certainty, taking an average of years, although many at times frequently exceed the higher sum.

Here is what a working man recently told me: "My honey this season paid the rent of my cottage (£3), put boots on all the members of my household (£2 15s.), gave us several small luxuries (£1), and left us a considerable quantity of honey for home use, which was highly appreciated by all." A crofter's wife lately stated that she gets more profit from her bee-hives, numbering only eight, than they derive from the surplus of their crofting stock. Indeed, it is almost a proverb in many parts of Scotland that several stocks of bees yield better and surer profit than a cow does.

The last issue of *Record* informs us that Mr. Andrew Muir, Kirkcowan, in this last season, which he classes as poor, had no less than two tons of honey from fifty-nine hives. In 1905 he obtained 3 tons 13 cwt., or 8,176 lb., from a like number. The one works out about an average of 76 lb. per hive, and the latter almost 140 lb. Three hives gave him a total of 800 lb. Bee-keeping certainly pays.

The Right Hon. T. W. Russell, M.P., Vice-President of the Irish Department of Agriculture and Technical Instruction, has lately put on record that he has become a convert to the belief that "honey is money," and he is convinced that the difference between profit and loss of small farmers lies in the prosecution of this and similar small industries. One case he gave as a proof of his statement. Five years ago one of these small farmers made a start in bee-keeping, netting £1 15s. from two hives. This year he has derived an income of £125 from his bees. Yes, there is money in honey. See also JOURNAL (page 456).

To-day I had a note from a Ross-shire bee-keeper, who writes: "Bees have done well here. Heather was very good indeed, and I secured a larger crop than ever before, but still not nearly enough to meet the demand. Quality all over was good, and led to repeat orders, so the entire crop was quickly turned into cash. Our little friends have paid well this year."

Since starting to write this article (which, by the way, is a direct result of my introductory sentence on the "Healthfulness of Honey": several letters reached me asking if "honey is money") I have consulted three local bee-keepers. One with three hives had a clear profit of £4 10s. Another with eight hives added £15 to his income. A third, a day labourer, from five frame-hives had as much surplus as gave him an equivalent in clear cash equal to his wages *for a quarter of a year*. Further, I do not know a single bee-keeper who has not had a clear profit of over a pound from every supered hive where anything like care and attention was given to the bees.

I cannot close without saying a few words on marketing honey, because a great part of successful and profitable bee-keeping lies in disposing of the surplus in a rational way. Many dump down their surplus honey on their grocer's counter, and take whatever bid he is prepared to offer. This is not good business. Very generally the offer is only about two-thirds of the value of the honey. I know that many sold their surplus at 7½d. per 1-lb. section. Thousands were sold at that price, while their neighbours sold all theirs at 10d. each. That alone is a gain of 33⅓ per cent., meaning all the difference between making the industry a paying one or not. Selling the crop well means very much indeed in considering whether bees pay well or not. Bees well managed and the crop well sold, honey *is* money!—D. M. M., Banff.

THE BEE-INDUSTRY IN S. AFRICA.

A QUESTION FOR MANUFACTURERS.

[7291.] I have followed with interest the correspondence which has appeared from time to time in your highly-esteemed journal regarding the granting of experts' certificates in South Africa, more particularly that signed by "Cape Bee-keeper, Douglas," but have refrained from joining in the discussion until I was in a position to inform this gentleman what had been done by the South African Bee-keepers' Association in this direction.

Inter alia, I am sorry to find that, although two reports have appeared in

your journal giving particulars of the Transvaal (and later South African) Bee-keepers' Association and its strenuous efforts to put apiculture on a firm footing in this sub-continent, our mutual friend has not yet attempted to put himself into communication with the society. There is an old saw that actions speak louder than words, and had the Douglas bee-keeper really had the interests of the industry at heart he surely would have endeavoured to get into touch with the organisation which has already done so much to put the honey industry on a sound basis in South Africa.

The South African Bee-keepers' Association is now prepared to grant certificates to its members after due and proper examination, and has appointed for this purpose its senior expert, Mr. F. Sworder, and a practical bee-keeper, Mr. Torrente, also a member of the central committee, as examiners to this end. Details will be supplied upon application to the hon. secretary, C.S.A.R. Headquarters, Johannesburg.

I cannot speak with as dogmatic a tone (and I should be sorry to do so) as "Cape Bee-keeper" when he points out the parlous state of apiculture in Cape Colony, but he will be interested to learn that close on a score of our members in that colony have been carrying on bee-keeping on modern lines for some time past; in fact, one possesses close on 150 colonies, all worked on modern lines—not bad for Cape Colony in spite of "Cape Bee-keeper's" doleful complaint.

In so far as the Transvaal is concerned —and it is this part of South Africa on which I can speak with more assurance —several hundred individuals have started apiculture on modern lines, well over 100 having joined the association. This speaks well for our influence.

With regard to the Orange River Colony and Natal, I may say members are still joining, although all the prominent producers have already become members.

The membership list extends as far north as the Zambesi River, and the volume of correspondence arriving daily from all over the sub-continent tends to prove what a great interest is being awakened in honey-production in South Africa.

A co-operative depot has been opened in Johannesburg, and so marked has been its success that the demand up to the time of writing has been greater than the supply—conclusive proof that South African honey, when prepared and presented to the public in as palatable and tasteful a manner as the imported article, more than holds its own; it also commands a much higher price. As soon as the season is well on and consignments come forward regularly it is contemplated to open up further depots on the Rand, as well as in the other chief towns of the colonies.

The *South African Farmers' Advocate* of Bloemfontein is the official organ of the association, and in it will appear articles monthly from the pens of well-known bee-masters in the sub-continent. South Africa has its own peculiarities, even in apiculture, and those who have studied our humble bee for many years have promised to support its development along right lines by word of advice.

After perusing this letter I hope "Cape Bee-keeper" will give us the benefit of his experience and support. Any others in South Africa whose eyes may light on these lines will be welcomed. Personally I shall be only too delighted to communicate further with all who have the interests of apiculture in South Africa at heart.

The motto of the association is "Co-operation and production on modern lines."

Before closing, I should like to add a personal comment in connection with my experience of British-made hives found in South Africa. Each manufacturer has his own style, and consequently, when apiaries are for sale, owing to the utter impossibility of interchangeability of lifts and spare parts when tiering during the honey-flow, people who desire to extend their own apiaries hesitate to pay good prices for British hives. It is quite another thing when American hives are for sale; the A. I. Root Company stand for certain sizes and standards, consequently American hives find a far readier sale in South Africa, quite apart from the fact that they can be laid down more cheaply than the British hive.

I have had the benefit of many conversations with bee-keepers all over South Africa, and if it be possible to offer a word of advice to British hive manufacturers I should suggest to them the advisability of holding annual conferences to decide upon what lines to work for export business. There is a vast field for the British article in South Africa if the ground be thoroughly worked and suitably prepared. Co-operation even as regards the foreign oversea markets will be productive of much good. American Trusts are at a discount at present, but one can learn from their progress that standardisation pays better than individual efforts, even though along well-defined lines.

To instance a case in point. For years past a certain manufacturer at home has been sending out hives which he labels "Colonial." This hive has sold well in various parts of South Africa, particularly in the inland colonies. This year,

for some unaccountable reason, he widened this same hive—without a word of warning—about 1½ in., still, however, retaining the same name. The result is that those apiculturists who had bought the "Colonial" hive and had made it the standard for their apiaries, when ordering spare parts, &c., discovered that they would no longer fit. Result: Bad language and discredit to the manufacturer. This rarely happens with American goods. If a change is contemplated the fullest notification is always made thereof. *Verb. sap.*

One question before I close: Are British hive manufacturers desirous of maintaining the colonial markets, or are they so independent as to be able to do without our trade?—GEORGE B. OETTLÉ, Hon. Secretary, S.A.B.K.A., Johannesburg.

A REPORT FROM WARWICKSHIRE.

YELLOW-COLOURED BEES.

[7292.] I was much amused a few weeks ago when reading "D. M. M.'s" account of the yellow bee (B.B.J. for October 22, page 429). His experience of them tallies with mine to a nicety, and he might have added that if there were any stings to be had cheap the yellows were the boys, or rather girls, to supply them. They also do a deal of poaching. Almost every bee-day during the last three months they have been a source of trouble and annoyance to my wife and family, who do not appear to have any ear for good music! They would quickly drive them out, whereas I would say, "Come in!" There's no better melody to a real lover of the honey-bee. One of my neighbours complained to me a short time ago that "a lot of yaller 'uns had come and clean robbed out one of my hives, and they waun't mine either, as mine is dark 'uns." His daughter also stated that many bees like wasps were continually being killed in the house. As to honey-production, my own yellows have beaten the blacks "hollow." They are hybrids—a "British Golden" virgin mated with the native black bee. It, however, takes twice as long to manipulate this class of bee, owing to their being so excitable, and every movement of the hand is quickly noted. They do not adhere to the combs as do the native bees, a considerable portion taking flight during manipulations. We do not have any large "takes" of honey in this district. I secured about 40 lb. per hive this season, which is probably a little over the average for this quarter.

Anent driven bees, my experience has been very satisfactory. I, however, only secured one lot last year, and these I hived about the middle of September on spare combs and frames of food and pollen taken from other hives, so that very little feeding was necessary. I consider it very essential that they should have a fair amount of pollen stored for the early brood. The weight of the bees would be about 3 lb. or 3½ lb., and they have done very well.

In a local chemist's shop is displayed some granulated honey as white as milk. As I have not previously seen honey of this colour I am interested to know the source from which this was gathered. The tradesman, who is well known to me, assures me it is perfectly pure, and I quite believe his statement. This information could no doubt be furnished by some, perhaps many, of your readers. In closing, I should like to say how much I appreciate the writings of several of your regular contributors, the most prominent of course being "D. M. M.," who must spend many hours a week in his endeavour to educate and interest his fellow bee-keepers. I have had many a good laugh when reading the witty remarks contained in "Cappings." There is just one thing I have forgotten which may be of interest. My hybrids raised a queen who evidently failed to mate. I examined the hive at a later date, and, as there was no sign of brood in any stage—that belonging to the old queen having all hatched out—I took away the useless queen and introduced another a few days after, which they ejected! Upon examining the stock later to ascertain the cause I found about a dozen queen-cells capped over, but still no sign of any other brood. Now there is no doubt at all that all these eggs were purloined. I enclose a newspaper cutting relative to bee-stings and rheumatism, which may be worth while reproducing with the other details of cures which our Editors have already promised us.—R. FERRIDAY, Four Oaks, November 20.

KEEPING BEES NEAR HOUSES.

[7293.] I enclose a photograph of my garden and one hive, which may be useful and interesting to would-be bee-keepers living in towns. My house, as shown in the picture, is one of a terrace of thirty houses in a row, with a garden behind about 20 ft. by 60 ft. long. At the bottom of the garden there is a tennis-field, so there are numbers of people always running about near, as well as my own two children playing and swinging in the garden during the greater part of the day, but I am glad to say no one has ever been stung, although I have kept bees there for about five years. Only on one occasion have they transgressed, and that

soon after they were placed in position, so I think the change from country to town must have been the cause, as now, being all town-bred, they know how to behave better, and do not try, as they did at first, to gather honey from my neighbour's bald pate, which they must have taken for a sunflower. The hive in front is a nucleus, containing one of Mr. Sladen's golden queens, fertilised and introduced on the same spot, as seen, to be united later to the hive in the rear, as that is the one I usually keep stocked with bees, finding that one hive is enough in the busy season, although I have kept as many as four hives at a time. I think that although the bees were not too thick for me, maybe the neighbours find them a nuisance, so I am now contented with my single stock. I work mostly for extracted honey, and took as much as 80 lb. from the one hive in 1906; this year I did not do so well, as I had a poor queen. I ought to have re-queened the hive early, but was too busy to do it at that time. Still, I got twenty-one sections and 30 lb. of extracted honey from them in shallow-frames, as seen in my hand. The hive is on the "Cowan" principle, and I can tier up three boxes of shallow-frames or sections as required; there is a door at the back, and a glass fitted to brood-chamber, which often pleases the young folk who come into the garden to play, whilst I myself only have to glance at the glass at the back to see when the bees need more room, and I have often watched the queen laying in the end comb.

I also have an out-apiary of about a dozen hives some distance away, but am sorry to say foul brood appeared this season, so I have had to clear out all combs and unite bees. I have fed up on medicated syrup as advised in "Guide Book," and hope by next season I shall be free once more from the pest. I sent some honey up to the Grocers' Exhibition this year, but, taking into account the number of entries and that it was my first attempt at showing, I could not be disappointed at not coming out on top. However, I shall try again next year.—R. E. Sainsbury, Southampton.

MR. R. E. SAINSBURY'S ONE-HIVE APIARY, SOUTHAMPTON.

MANAGEMENT AT THE HEATHER.

WANTED: BETTER METHODS—AND RESULTS.

[7294.] The problem of securing larger yields of comb heather honey is one that appeals strongly to moormen, for, be the season ever so good, demand and prices are ever sure. Mr. W. S. Watson (page 465) thinks that the road to success lies along the line of divisible brood-chambers. With divisible hives worked in white clover-heather districts the usual procedure is to super over all twenty frames to begin with, then when preparing for the heather contract to ten, and so crowd the bees into the sections. This is theoretically sound, but in practice rather disappointing. With clover yielding freely

a poor queen would be quickly crowded out of the double brood-chamber, to the detriment of the supers. A prolific layer might hold her own, which means a large family of consumers, equally detrimental to work in the supers. Of course, in the latter case there would be a strong force of gatherers for the late crop, but with the queen exhausted by over-work, even the shallow brood-chamber is blocked with masses of heather honey.

These are simple facts, and show that the divisible brood-chamber is not the end itself, but merely the means towards an end. Now, the heather, although a valuable crop, is an uncertain one, and our method must on no account be prejudicial to the clover ingathering. Suppose you have a colony occupying two sets of shallow-frames. Just as the clover-flow begins contract to a single body of ten full frames of brood, supering with racks of sections. Above all place a large board, and on this the box of surplus frames containing small patches of brood with honey and pollen, at the same time providing a small entrance through the hive "lift."

By the following evening only a few young bees will be left, when a fertile queen can be safely introduced. We have the original stock now in two portions, one making the best of present opportunities, the other building up for the heather campaign. The result is that when August comes we have more brood, more bees, and, if our management is right, get more honey.

The entire working force is again to be crowded into a single story, as when preparing for the clover-flow; but the brood-nest must be made to suit the entirely altered conditions. Nine, or even eight, frames of hatching-brood simply invite brood-nest storage. The queen is bound to contract the brood area, and it pays to anticipate her.

I prefer to leave only six frames of brood and two of capped stores, which gives sufficient bearing for a rack of eighteen sections, and two such racks are ample in most seasons. By this arrangement bees and honey alike must go into the supers, and the latter are kept crowded by constant reinforcements from the breeding colony, which has now the bulk of the brood. I find it best to unite in the early morning before pollen-gathering begins, first caging the queen out of harm's way and then shaking the bulk of the bees on to the supers, when the carbolic cloth will quickly send them below.

It can be readily understood that colonies handled in this way will get much more honey, and put it in the right place—at least, that has been my experience during the past season.—J. M. Ellis, Ussie Valley, November 23.

UNITING BEES.

[7295.] In the B.B.J. of November 5 (page 446) Mr. Simmins accuses me of an act of piracy from the pages of "A Modern Bee-Farm," and insinuates that I have stolen his goods and have been attempting to palm them off as my own. Mr. Simmins's contributions to modern apicultural knowledge are not only valuable, but are well known and established, and if I were to attempt to palm off any idea in bee-keeping which has been long associated with Mr. Simmins as my own discovery I should only cover myself with ridicule. But I deny having attempted any such thing; all I have done is to describe in the B.B.J. of October 22 (page 427) a simple and successful method of uniting two stocks by previously taking away both queens. I repudiate Mr. Simmins's allegation that I obtained this idea from his "Modern Bee-Farm" or any other book. In August last I discovered this method by having occasion to unite two four-frame nuclei, both of whose queens had been taken away the previous day; they were united in the morning without using either smoke or flour, and there was no fighting among the bees. Further experiments along the same lines have convinced me that this method is a safe one under any circumstances and at any time of the day. In my letter of October 22 (page 427) the time given is two or three hours; this was done in order to meet every possible contingency, but the operation can sometimes be done in half an hour, the essential factor being that both colonies (including the foragers who are out) have had time to discover the loss of their queen, and, in consequence, have become temporarily demoralised.

I also find that driven bees can be successfully added to a stock at any time of the day if both queens are previously taken away. Now Mr. Simmins in his book specially warns against adding driven bees to an established stock, which is, to my mind, conclusive evidence of his ignorance of a reliable and successful method of uniting which will work quickly and well at any time of the day. I can assure him that I have read with considerable pleasure both the 1888 and 1904 editions of "A Modern Bee-Farm" more than once. I have also read Roots' "A B C," Cowan's "Guide Book" (1893, 1904, and 1907 editions), the "Irish Bee-Guide," Cheshire's, Cook's, Dadant-Langstroth's, and other works on bees, and from all of them I have copied extensive notes, but in none have I ever noticed the idea of uniting two stocks by the simple method of previously taking away *both* queens. The removal of one queen is mentioned, but not both, and my claim is that the

one-queen plan does not always succeed, but with both queens away my plan scores every time.

Now if Mr. Simmins described this plan so long ago as 1888, and no one appears to have noticed it, he has only to blame the vague and involved language employed in the pages of "A Modern Bee-Farm," in which many of the methods proposed remind one of Napoleon's plans for crossing the Alps: Napoleon understood them himself, but none of his generals could. So it is with Mr. Simmins: he may understand his plans himself, but the dictatorial style and exaggerated language employed in the work seriously detract from its reliability as a suitable guide either for the beginner or average bee-keeper.—JOHN SILVER, Croydon.

BEES AT THE HAMPSHIRE MOORS.

[7296.] The honey season has been a good one in this part of the country, although not quite up to the expectation that was once promised. I may say we are dependent entirely on the heather for our honey crop, and towards the end of June and beginning of July the bees worked hard on the bell heather (*Erica cinerea*), and quickly filled brood-chambers and section-crates with honey, but when the real heather, as we regard it—*i.e.*, the ling (*Calluna vulgaris*)—came into bloom we had a few cold nights, and although the bees brought in more honey afterwards, they never worked with the same enthusiasm again. Several of my hives have yielded fifty to sixty sections, and June swarms have filled half that number. Although we never secure such large "takes" as one reads of in the JOURNAL, I consider this a good district for bee-keeping, for we rarely have a really bad season. In 1907, when reports from all over the country were bad, bees did splendidly here, the heather or ling crop being the best on record, and we got nice fine weather towards the end of August, so that bees were able to bring in honey fast. I had to go away from home just as the bees started work, so left each hive with two racks of sections on, and on my return at the end of August I found them all filled with sealed honey. I never use a queen-excluder, and have never had a section spoilt through not doing so. I also never have to feed my bees, except to stimulate breeding in the spring. The weather here is usually so mild and we get so much sunshine that bees are confined to their hives for a very short period. I have seen them taking in pollen and working hard on the ivy blossom in November.—E. U. FRANKLIN, Hants, November 24.

A SCOTCH FARMER'S REPORT.

[7297.] Referring to Mr. Alec. Low's request on page 467 of last week's issue for information with regard to how bees have done in other parts of Scotland, I send a short report—although I happen to be located in the same shire—of my own experiences this year. Like other districts of which we have heard, the bees were weak in spring, and the clover was in bloom before our stocks were strong enough to get the full benefit of it. Not only so, but owing to prolonged drought the clover did not bloom so long or so plentifully this season as it usually does. Fortunately, however, the heather came early, and gave such a remarkably fine show of bloom as we have not seen for years. The honey from it did not come in with a rush, as in some years, but the bees "pegged away" steadily, with the result that those whose districts yield both clover and heather have had a good season, though not so good as in 1906. For myself, I have secured an average profit of £1 per stock from my forty hives. Moreover, I consider the bees to be the best-paying part of my farm. Regarding the price of honey, I may say the prices quoted by our friend "D. M. M., Banff," are always far above what I can get here; but, to be quite clear on the point, he should state whether the prices he quotes are wholesale or retail. The wholesale prices of sections in Aberdeen this season have been: Clover, 7s. 6d. to 8s. per dozen; heather, 10s. to 12s. per dozen. Like Mr. Low, I have been wondering what has become of all the wasps this autumn, as there were plenty in the spring. They seem to have entirely disappeared. It would be interesting if some readers could give a valid reason for this. And have wasps been scarce in England?—WILLIAM KENNEDY, Echt, Aberdeenshire, November 23.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

The Oldest Craft (page 401).—It may reasonably be queried whether bee-keeping is, after all, "the oldest craft under the sun." Such inquiry would very properly be confined to this planet, and not extended to any other part of the system which enjoys the solar heat, and where bees may make honey for aught that we know. Otherwise, from the progress made, we might conclude that navvying had some claim to antiquity in Martian globe circles? But what about gardening and shepherdry? "Adam's apple" is even to-day a "male" possession, although from its crabbed and mali(e)gnant effect on the race there is a doubt whether it could

have been very highly cultivated. And we are told that Abel tended sheep in very early times. It may be, of course, that he was a bee-keeper too. Who can tell? At least, if he wore the same style of garment as our first parents he would be cautious in his manipulations not to jar the frames over-much!

The Crack of Doom (page 414).—"D. M. M." does well to insist upon dry roofs. A crack may mean the doom of a colony. I am feeling very comfortable on this score, for my man and I have just covered twenty of the hive-roofs with calico well painted. So now our American prohibition friends will be pleased to hear that there is another dry state. We have removed the sheet zinc from all such covered roofs, and made a thorough job of it in spite of Mr. Reid's recommendation. I cannot think that even he can find this detestable material satisfactory, for, to quote his own words, "Experience is the best possible proof of fitness for the purpose"! But I fear that my faith in Mr. Reid, as a practical bee-keeper, is somewhat shaken by his recent paper on "The Choice of a Hive." I fail to see the value for practical purposes of discussing such materials as glass, pot, and metals which require special drainage to prevent "great loss of bee-life" (page 284). And Mr. Reid's remedy is as bad as the disease. For he calmly suggests several inches of peat-dust as a flooring. No, no! Calico at 2½d. per yard makes an excellent roof-covering. Give it a filling coat of gold-size and boiled oil before the usual paint—with a coat of paint every other year afterwards—when a dry and lasting roof will result; and you may rest in your bed "o' stormy nights," *knowing* that your bees are as well roofed as may be. I am only sorry that the alteration above was not effected earlier, as I attribute the loss of several colonies to the use of these hives, of which the dam(n)-proof is their death!

Trifles (page 414).—Why should this queenless hive suffer extinction? Why could not the bees rear a new queen, to be in due course fertilised in the hive during the winter? "D. M. M." is hardly up to date!

Another Trifle (idem).—Are you sure that honey will run out of a properly-capped inverted honey-bottle? And the whole of the honey disappeared en route? Are you sure that it leaked? Why did not the atmospheric pressure keep it in? It must have been, I think, very thin indeed, and, if so, this was perhaps its best fate!

One More Trifle (page 415).—But, "D. M. M.," dear, if the cask was "blown to smithereens"—whatever size that is—how did the people come to taste "the sour and nauseating stuff"? They must have treated it as one would, of course, treat the best Scotch whisky under the same circumstances!

Bee-notes (page 416).—Such cases of deferred mating are of special interest just now in view of Dr. Kuckuck's theories. What day was the queen hatched? Apparently she was nearly six weeks old when mated. Dr. Kuckuck contends that such a period will almost essentially produce a drone-layer. Will Mr. Sleight take care of her, and let us know her history?

(*Idem*).—It seems almost incredible that one small bird can almost wipe out several hives. But a continual cropping would no doubt wear away the stock! Now we may expect generations of those bees to possess a legend of a winged dragon which levied upon the workers a toll worse than that of the Pharaohs, until there arose Sir Thomas to slay it, who laid a snare for its first-born. Is it not written in wax in the archives of beedom?

Bee-paralysis (page 418, col. 2).—If Mr. Beuhne be correctly reported, his intention is not quite clear. How can he "test" the immunity of stock by giving infected combs, *if* such combs will not give the disease even to bees which are predisposed to it constitutionally? Immunity from disease by selection is an important point, to which I drew attention in the Isle of Wight case. I still think, in spite of the more roseate outlook, that local bee-keepers would do well to purchase queens from those whose bees survived the epidemic. There may be an opening here for one of them to cater for this demand, and to advertise his stock.

Expert Certificates (page 420).—From the frequency with which inquiry is made to the B.B.J., it would almost seem necessary to have a standing paragraph pointing the way to Hanover Square.

Queries and Replies.

[3841.] *Keeping Bees in Bedroom.*—I shall be glad if you will inform me if it is at all usual for bees to be kept in a bedroom. I may say the hive in question is fixed up firmly close to the window, and has an entrance cut in the window-frame. I am quite a novice in the craft, having bought the hive in the middle of September last. They are a driven lot of bees hived in August. I have had them examined by a bee-keeper, who told me there were both brood and young bees on the combs the last week in October. Do you think it likely that keeping them in the room accounts for such late breeding? I know that the bees

were coming in and out of the hive all through last month, and they carried in a lot of pollen on fine days. The window faces south, and there are lots of gardens where flowers are in bloom close by, while half a mile away there is a good deal of "ling" heather. I am wondering how the bees would get on in the summer-time in such a situation. The room is a spare one, so I am sure of the hive not being interfered with. The window certainly faces the road, but it is high up, and we have no houses in front of us. I have now got the "Bee-keepers' Guide Book," and take both the B.B.J. and the *Record* in order to obtain all the knowledge I can on the subject, as I mean to go in for bee-keeping on suitable lines if I can make headway in the pursuit. I send name for reference and sign—BEE-HOUSE, Barnoldswick, Lancs.

REPLY.—There is no reason why you should not derive a great amount of pleasure and useful knowledge with regard to bee-keeping from the experiment being tried with a single stock of bees. It can, however, hardly do more than pave the way for carrying on the pursuit in more suitable surroundings except as a hobby. We are not surprised to hear of late breeding under the conditions mentioned, because a hive in a bedroom "facing south" will be warmer than one located in the open air; the trouble will be to keep the bees from taking wing on cold, windy days, such as are common in early spring, and no doubt there will be some loss of bee-life through the foraging workers failing to get back home at such times. There will also be trouble at times through bees taking flight while the frames are being manipulated, and gathering on the window-panes in the endeavour to escape to the outside. Having named the disadvantages connected with your experiment so that you may know what to expect in that direction, it is for you to show how the possible trouble may be minimised by adapting your bee-work to the conditions under which it is carried on, and we will be glad to learn how you succeed.

[3842.] *Home-made Hives.*—I should feel very much obliged if you would give in the B.B.J. a short article on how to make a "W. B. C." hive, with sufficient explanations and measurements of the various parts as will enable an amateur having a small knowledge of carpentry to make his own hives during the slack season. Probably there are other beginners in bee-keeping besides myself who would find this information useful. Thanking you for the information I have gained from your most useful journal, and trusting you may see your way clear to granting this request.—A. G. CEILEY, London, N., November 12.

REPLY.—Anyone interested in making his own hives may obtain full particulars —and illustrations—of the hive in question, with details and measurements of its various parts, together with directions for building a bee-house and other valuable information, in the "Bee-keepers' Practical Note-book" (see advt. page v. in this issue).

[3843.] *Size of Hives for Use in the South.*—Being a constant reader of your valuable paper, may I ask:—1. If a hive taking ten standard frames is large enough for districts in the South of England? 2. Would my present "W.B.C." hives answer well enough for the purpose? Thanking you in anticipation of a reply, I enclose name for reference and sign—E. H., Birmingham, November 19.

REPLY.—1. A ten-standard-frame hive is, we believe, considered by the great majority of bee-keepers to be large enough for any district in England, and some of the largest takes of honey have been secured from hives of that capacity. At the same time it is known that some bee-keepers located in certain districts prefer a hive taking twelve or more standard frames in the brood-chamber. 2. The hive you name can be had to take eleven or even twelve frames; it is largely a question of cost, a twelve-frame "W. B. C." hive costing considerably more than the ordinary one.

[3844.] "*Guide Book*" *Recipes.*—I want to try to make my own bee-candy instead of having to buy it, but one thing in the "Guide Book" recipes puzzles me. In recipe No. 1, for making naphthol beta solution, we are told that one tablespoonful of the solution is the right quantity for 10 lb. of sugar, and then it goes on to say we must add 6 lb. of sugar to a pint of water, &c. This is neither a half nor a quarter nor a third of 10 lb., and seems to make quantities much like guesswork. Will you therefore kindly explain what is to me a difficulty? Name sent for reference.—S. L. H., East Grinstead.

REPLY.—The complaint of being "puzzled" over the recipes in question arises simply from your confusing recipe No. 1, for making naphthol beta solution intended for use in syrup for bee-food, with one used in making bee-candy which follows. Recipe No. 2 has no connection with No. 1, each having its own specific purpose to serve independently of the other. We therefore only need to explain that when medicated syrup is wanted follow the directions given in No. 1, and turn to recipe No. 4 when the object is to medicate bee-candy, carefully

adhering to the instructions given. In other words, add "one table-spoonful of solution to every 10 lb. of sugar" used in candy-making.

[3845.] *Leaving Supers on in Winter.*—I wrote to you in September last requesting your advice about supers, which, through my ill-health and absence from home, have had to be left on the hives all autumn. I now ask if you will kindly help me once more with your advice on the following points:—1. I am returning home at Christmas, and wish to know if I am likely to find the bees wintering in the supers or gone down into the brood-chamber below. If the former, is it possible in their lethargic state to clear the supers of them (a queen-excluder is on top of body-box)? 2. Am I likely to find the honey granulated at that time of year? If so, what is the best and cleanest way of getting the honey from the comb—that is, if it is too much granulated for removal by means of the extractor? 3. I suppose it would be a great mistake to give the wet supers back to the bees at that season (January), and would cause undue excitement; so I must waste the drippings from combs? I know this is very bad bee-management, but I must just do the best I can under adverse circumstances, being compelled to take the honey and replace supers for the bees before leaving home again in January.—O. C. GRIFFITH, Bath, November 20.

REPLY.—1. Seeing that the queen is confined to the brood-chamber by excluder-zinc, it is about certain that the bulk of the bees—if not all—will have deserted the supers and be in the body-box along with the queen. It will, therefore, be advisable to get some idea of the amount of stores the brood-combs contain before removing all the supers, or the bees may perish of hunger before honey is obtainable outside next year. 2. Only inspection will show whether the honey in supers is liquid or granulated, and, if in the latter condition, it can only be got out by cutting up the combs and hanging them in a bag of muslin or coarse flannel before a good fire to strain through. 3. If the honey is still liquid and is removed by the extractor, you might put the wet combs above the hives (for cleaning up) after nightfall, confining the bees by closing the entrance with perforated zinc, and not releasing them next day unless they are perfectly quiet.

Notices to Correspondents.

W. G. (Harrogate).—*Candy-making.*—We can only judge your candy by inspection, apart from method used in making, and from this standpoint it is useless as bee-food, being as hard as a stone. The large granules of sugar used do not appear to have been melted at all. Without being able to say where you have gone wrong, it is clear that the directions given on page 195 of "Guide Book" have not been *strictly* adhered to, consequently the candy is spoilt. We hope you will make another trial of Bro. Columban's recipe, because we have had sent numerous samples made from it which have been as good as could be desired.

E. C. (Newton Abbot).—*Buying Bees in November.*—If the skep is occupied by a June swarm of this year, and is now strong in bees, with a full supply of natural stores, it should be worth at least 15s. at this season for the purpose of allowing the bees to transfer themselves to your frame-hive.

H. A. M. (Norwich).—*Cost of the* BRITISH BEE JOURNAL *in South Africa.*—The B.B.J. is sent post free to Natal for the same price as to any part of England—viz., 6s. 6d. per annum. We have a great many subscribers and readers in the Transvaal and the various colonies of South Africa, as will be seen from the frequent communications received from that part of the world which appear in our pages.

CRYP (Sunderland).—*Expert Assistance Wanted in Durham.*—The nearest expert of whom we have personal knowledge is Mr. W. S. Watson, Southview, Wolsingham, Co. Durham, who would probably be very pleased to render such help as your friends require. You might, therefore, write him on the subject, mentioning the fact of our having requested you to do so. He is a capable and practical bee-keeper.

C. H. B. (Stoke-on-Trent).—*Density of Honey at Shows.*—Experienced bee-keepers—including ourselves—are thoroughly conversant with all you say with regard to the value of consistency or density of honey in show samples. But if you have any new method that will be helpful to exhibitors, we will be glad to give our view of the "booklet" you propose to publish, if sent for review.

W. DUNMALL (Wadhurst).—The photo will appear in due course, but publication has been deferred owing to pressure on our space just now.

Honey Sample.

F. D. (Wellington).—Sample is almost entirely from white clover. It is good in flavour and of fair consistency.

*** *Several important letters, &c., are in type, and will appear next week.*

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THE

British Bee Journal

AND BEE-KEEPERS' ADVISER.

ESTABLISHED 1873.

A Weekly Journal Devoted to the Interests of Bee-keepers.

EDITED BY T. W. COWAN, F.L.S., &c., AND W BROUGHTON CARR

OFFICE 8 HENRIETTA STREET. COVENT GARDEN, LONDON. W.C.

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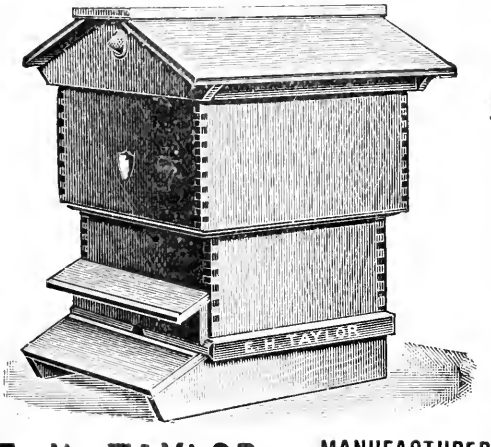

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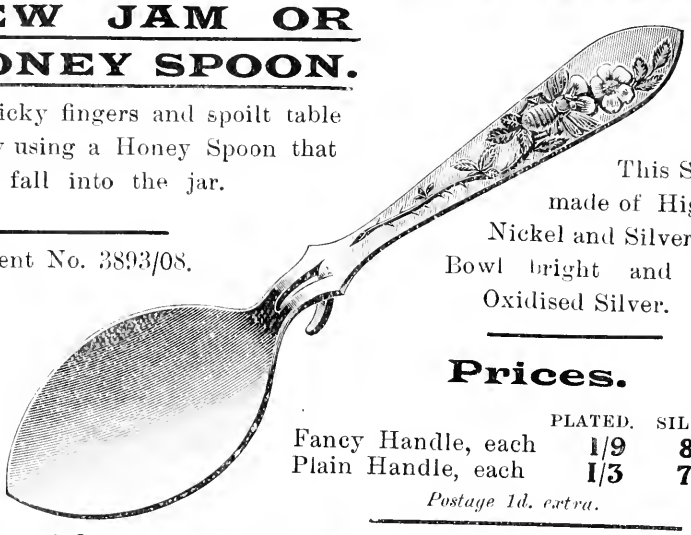

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Editorial, Notices, &c.

REVIEWS OF FOREIGN BEE-JOURNALS.

By "Nemo."

Organisation among Bee-keepers.—Allusion is made in the organ of the Austrian Bee-keepers' Association, *Bienen Vater*, to the Franco-British Congress of Bee-keepers, held in London on June 25 last, and it is stated that this was the first time that English bee-keepers have united with those on the Continent in conference. The number of bee-keepers in England is given as 63,000, of whom about 6,500, or 10 per cent., are stated to be organised into societies, so that the evident conclusion arrived at is that the value of organisation in England is not yet fully recognised. The editorial remarks are quite justified, and if these 63,000 bee-keepers were located on the Continent every one of them would be a member of some society, and in this way by co-operation put the industry on a surer basis.

Feeding Bees.—In the *Schweitzerische Bienenzeitung* M. Kramer cautions bee-keepers against feeding too rapidly, otherwise an insufficient amount of pollen will be brought in. In autumn, he says, one litre (1¾ pints) of syrup per day for ten to fourteen days is about equivalent to a good flow of nectar, and pollen in abundance is then collected and stored. In the spring, instead of feeding with syrup, he recommends giving the bees a good lump of honey-candy over the frames, which should be well covered to keep it warm. The candy is made by kneading 5 lb. of powdered sugar with 2 lb. of honey.

Honey Cure.—A correspondent of *Die Bienenpfleye* describes how a valuable horse of his had been cured by means of honey. The animal had an attack of laryngeal catarrh, and the veterinary surgeon, who was at once called in, employed all the recognised remedies; but instead of getting better the horse grew worse, and became so feeble that it was not able to work. After treating it for three weeks the veterinary declared that nothing more could be done for the animal and that its life could not be saved. The owner thought the same, and ceased to administer the remedies; but a good friend of his advised him to try honey. He therefore gave the horse every day ½ lb. of honey dissolved in 3 to 4 shoppen (1½ to 1¾ gallons) of warm water. After a couple of days the horse took this medicine eagerly, and looked forward to its warm drink. In the course of a week there was a marked improvement, and the horse began to eat better. The honey cure lasted between three and four weeks, and was then discontinued, as the animal became quite well and was able to work again. The writer mentions another case of a horse suffering from colic, which was cured in a short time by administering 2 lb. of honey dissolved in 4 shoppen (1¾ gallons) of hot water, which was poured down the horse's throat while still warm. The veterinary in this case was sent for, but on his arrival two hours later he found the horse free from pain and eating contentedly.

Foul Brood Cure.—The Bee-Syndicate of Brittany solicited its members to send in reports on the condition of their apiaries, and twenty of them responded. Their reports are printed in full in *L'Apiculteur*, and among them we find one respecting a visit paid to the apiary of M. Wimel, of Ploudalmézeau, whose apiary had been decimated by foul brood, and who had succeeded in thoroughly eradicating it. Three years ago he purchased some bees from a neighbour to save them from the brimstone-pit, and united them to his own healthy colonies. A few months later he found foul brood in fifty-one of these colonies. The next year his apiary was visited by members of the Syndicate, who found the colonies weak, and recommended M. Wimel to strengthen them. By October, 1907, many of his colonies died out, and the apiary was so contaminated with disease that his neighbours became seriously alarmed. Notwithstanding the constant use of disinfectants, he lost over fifty colonies. This year he invited the members to pay another visit to his apiary, where he had thirty colonies, and clearly proved to his visitors that his bees were quite free from foul brood. With regard to the method adopted for curing the disease, it was stated that instead of entirely destroying bees and materials, he had the idea that the disease might come from the queen. He therefore removed the queen of one colony and waited for another to be raised, and he destroyed the second queen twenty-one days afterwards, so as to deprive the hive of all brood for two or three days before introducing another. He then introduced a queen taken from a healthy hive, and at the same time gave the stock a comb with bees. The result was extraordinary, and he therefore took the same course with all the diseased colonies, and they are now perfectly healthy.

BEES' STINGS AND RHEUMATISM.

By E. W. Ainley Walker, D.M.Oxon.,

Fellow and Tutor of University College, and Lecturer in Pathology in the University of Oxford.

In consequence of certain observations previously recorded,* which seemed to suggest a possible relationship between some of the phenomena of acute rheumatism and an abnormal production of formic acid in the body under the action of a streptococcal micro-organism, the attention of the writer was directed to the alleged popular belief that the poison of bees is protective against "rheumatism," and may also be successfully employed for its cure.

An inquiry was therefore set on foot with the object of ascertaining:

1. The extent to which this belief is prevalent.

2. The amount and kind of evidence available in its favour.

3. The amount of evidence which could be obtained to the contrary.

4. The clinical characters of the "rheumatism" thus stated to be cured.

A series of questions was published in the *Lancet* and the *British Medical Journal* on June 22, 1907, and subsequently in *Nature* and the British Bee Journal. They appear to have been widely copied into various newspapers in most English-speaking countries; and as the result the writer has engaged in a considerable correspondence with persons, both lay and medical, who have either recorded their own experience and information, or sent references to statements in the Press bearing on the subject.

I was also fortunate enough to succeed in getting into correspondence with Dr. Terc, an Austrian physician of Marburg (Styria), whose observations are referred to in some of the Press notices, and who has carried out the bee-sting treatment for many years past.

Apart from Dr. Terc's results, which appear to be worthy of special consideration, and must be referred to later, the material collected cannot be regarded as establishing anything beyond the fact that a widespread belief in the efficacy of the bee's sting for "rheumatism" exists. But it is highly suggestive, and should be sufficient to justify the removal of the subject from the realm of mere folklore into the sphere of practical investigation. But all that the writer has at present the opportunity of doing is to submit the statements which he has collected on the subject to the consideration of those who have facilities for clinical research.

It will be noted that the conditions referred to in the evidence which follows are for the most part what may be classed as "chronic rheumatism," but that the inquiry as to the actual characters of the affection concerned failed in nearly all cases to elicit any very satisfactory statement as regards its clinical features.

Letters from Medical Men.

1. Dr. W. Hammond (Cornwall) states that the belief is quite common in Cornwall; knows no facts bearing on it.

2. Dr. W. R. Gore (Wales) had a patient who started keeping bees as a cure for rheumatism, and stated that the stings did cure him; knows that the belief is common in Shropshire.

3. Dr. H. P. Cholmeley (London) used to hear the story as a boy in Bath.

4. Dr. Boswell Dodds (Devon): The belief is common in Switzerland, where also the peasants in the Canton of Berne say that extract of ants is equally useful. His wife's godfather used to cure his rheumatism by making bees sting him. Also refers to a case at Bâle, Neuchâtel, cured of rheumatism by bees' stings.

5. Surgeon-Major Johnston (Virginia, U.S.A.): The belief is prevalent in the States. Has seen the treatment applied in a case of acute rheumatism (temperature 103 deg. Fahr., &c.), with the result that in twenty-four hours the temperature was normal and the joint free from pain and freely movable. The same patient (Colonel W. T.) informs him that he has had one subsequent attack, similarly cured.

6. Dr. R. McLay (Lincolnshire) mentions a case of rheumatism of the shoulder (stiff and painful) of two or three months' standing, cured by an accidental sting of the hand.

7. Dr. Stawell (Australia) knows of the belief, and has met a man who claimed to have been cured by bee-stings.

8. Dr. Valentine Rees (Wales) saw a case of lumbago treated by bee-stings applied to the back; the patient was then able to walk about with ease and comfort, which he had not been able to do for weeks previously, but the condition returned in a few days. The clergyman who applied the treatment stated that he had been practically free from "gout and rheumatism" since he began to keep bees.

9. Dr. B. W. Winckworth (Somerset): The belief is widespread in Somerset. Communicates a letter from a solicitor narrating a case of "lumbago" thus cured: the patient, a military man, is now in the habit of catching bees in order to make them sting him.

10. Dr. M. S. Pembrey (London) is familiar with the belief.

* Ainley Walker and J. H. Ryffel, *British Medical Journal*, September 19, 1903.

11. Dr. F. W. Mackenzie (New Zealand) himself suffered for five years from muscular pains in the right scapular muscles and the outer side of the right arm. These have disappeared since he began to keep bees (one year).

12. Dr. Sidebotham (California) mentions a case in which the patient attributes the cure of his rheumatism, and twenty years' subsequent freedom from it, to bee-keeping.

13. Dr. F. Vicars (London) is familiar with the belief. Has been to see a woman, aged 46, near Salisbury, who suffered for ten years from severe rheumatism. She then began to keep bees, and was frequently stung. She has been quite free from rheumatism ever since—about ten years; no other remedy had been of any use to her. He also heard of another case—a man who had his ankles swollen from rheumatism, and who, hearing of the bee-sting cure, applied several bees to his ankles and was relieved, subsequently remaining free from rheumatism.

14. Dr. W. E. Moore Ede (Northumberland) states that a lady who suffers from chronic rheumatism gave no local reaction when accidentally stung by a bee—that is, is immune to a *small* dose of bee-poison. Her sister began to keep bees some time ago, but was made so ill on each occasion by a chance sting that she was obliged to give them up. She is apparently very highly susceptible to rheumatic poison also, for she has since had the most acute attack of rheumatic fever (with endocarditis) that Dr. Ede has ever seen.

LETTERS FROM LAYMEN—FAVOURABLE.

15. W. O. C. (England) has heard of the belief from three independent sources, and knows of a case of "well-authenticated" cure by bee-stings.

16. T. D. (England) narrates the case of "a chimney-sweep and a great sufferer from rheumatism, so much so that he could not use his brushes, and who was stung several times by bees, and now is very much better."

17. S. J. (England) has known many cases. Used to suffer from rheumatic pains himself, but has been quite free since he kept an apiary. His attention was first drawn to the matter when his dog, which was quite a cripple, got badly stung, and after this became quite well and free from rheumatics. Then a gentleman who was a cripple came to get stung, was quite cured, and can now walk twelve miles. A letter is sent from the gentleman in question confirming the statement as to cure, and referring to his medical attendant as able to give confirmation if necessary.

18. J. M. (Ireland) names a case of cure in a bee-expert under the Department of Agriculture (Ireland); no details.

19. T. C. B. (Queensland) mentions a case of "a man stung by a swarm of bees and cured of his rheumatism"; no details.

20. J. H. A. (England) mentions two cases: (1) has suffered from rheumatic fever, and has found considerable benefit by allowing bees to sting him; (2) is subject to rheumatism in the legs, and causes bees to sting his legs whenever he feels an attack coming on, and so wards it off.

21. J. B. (England) mentions a case in bed seven weeks with rheumatism, then cured by bees' stings (three applications of twelve stings each).*

22. B. M. (France) mentions two attacks of rheumatism in himself, the first of six months' standing, cured accidentally by bees' stings, the second cured intentionally by the same means. He informed his London physician (Dr. de N. W., since dead) of these experiences, and the doctor subsequently induced another patient to try the remedy, with good results. Mr. B. M. refers to the homœopathic remedy, *Apis mellifica*, prepared from bee-poison, and says, "Throat troubles respond like magic to this remedy."

23. A. E. (England) has met with the belief, and was informed by an observatory attendant at Potsdam, Germany, that a member of his household who had been subject to rheumatism had remained free from it since being severely stung by bees.

24. R. E. (Scotland) knows of the belief, and communicated a letter from a rector, an authority on bees, who is acquainted with the alleged cures, and writes, "I was myself rheumatic till I kept bees; I have not been so since; but I do not say *post hoc, propter hoc*. A man at B. P. suffered acutely at night from rheumatism. He took bees to bed with him in a little box and applied them. In a paroxysm of pain one night he applied the boxful! And he has had no rheumatism since."

25. M. S. (Australia) formerly lived in South Africa, where her father was advised by his doctor to try bees' stings for rheumatism in the knees. He did so, and was cured. She has since persuaded her husband to try the same remedy for incapacitating rheumatism in the right arm; cure resulted.

26. J. L. C. (U.S.A.) is forty-two years old, suffered for many years from rheumatism, and was three times severely ill with it, then heard of the bee-sting treatment, and cured himself with it. He has now been completely free from rheumatism for

* It should be added that another case of six years' standing, "totally incapacitated" hearing of the foregoing cure, tried the treatment for three months without improvement.

more than two years. He persuaded three other persons to try the treatment; each was greatly benefited, though in two of the cases the treatment was not persevered with.

27. J. W. Y. (U.S.A.) suffered from rheumatism in the hands and arms for four years; there was pain at night, preventing sleep; then began to keep bees. While feeding them last winter got three stings in the left hand; rheumatism much relieved, especially in left arm; later on got stung in right arm also; no rheumatism since.

28. Ll. B. A. (England) communicates a letter from a friend whose uncle discovered the bee-sting cure himself accidentally, and a few months later read of it in a newspaper. Since then he has regularly caused bees to sting him whenever his rheumatism returned.

29. J. B. M. (Australia) writes that in 1892, having suffered from rheumatism in the shoulders for about twenty-five years, he decided to try the bee-sting cure. He applied a few bees about the shoulders each morning, and at the end of a week was free from rheumatism, and remained so for twelve months. In the following year he had a severe attack, not being able to move about without pain; he therefore began treatment with twelve stings, followed by six more forty-eight hours later. He was free from pain the same evening, and remained well for another year. A third attack similarly treated was followed by two years' freedom. Up to 1905 he had four years entirely free from rheumatism, and has had no attack since 1905. He narrates the following case: ". . . Mrs. R., whose hands were stiff and gnarled in all manner of shapes, so that she could not use them to lift a small plate off the table . . . she . . . in some way so angered the bees that they flew out on to her hands, literally covering them and stinging them all over. At the end of a week . . . Mrs. R. came out of her back door and . . . called out, 'Look, see what the bees have done for me!' raising up her hands and opening and closing them frequently. The fingers had become almost as lissom as ever they were."

30. E. W. C. (Egypt) is acquainted with a German lady who spent some time in an establishment in Austria under treatment by bees' stings. She received no benefit, but stated that she was encouraged to persevere for some time by seeing other patients who had to be carried into the institute, but after a few weeks' treatment were almost completely cured.

31. F. S. (Germany): The belief is common in Germany.

(Continued next week.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[7298.] The continued mild weather has enabled our bees to take flights whenever inclined, and has provided the laggards among bee-keepers with opportunities for putting their stocks in wintering order. I note your correspondent G. W. Smith (7279, page 463) refers to out-apiaries and the management thereof. I have had an out-apiary for some twenty odd years, and have always managed it myself, with the help of a "bee-minder" or swarm-watcher for about six weeks—viz., from first week in June to mid-July. All he has to do is to watch for swarms, hive them into straw skeps, mark the hive the swarm issued from, and carry the bees to the home apiary—about two miles—after swarming is over for the day. For this service I pay 10s. or 12s. per week for the job, wet or fine. If weather is dull and cool, the "watcher" does a little gardening or any other job required to fill up his time. I used to hope we should be able to control swarming by the use of some device to catch the bees, but I would not be troubled with any of the swarm-catchers invented so far. Again, I look on the sale of swarms as another string to one's bow; if you possess a good strain of bees and advertise the fact, it is fairly certain that more orders will follow than you can fill. Anyway, that has been my experience (I have already booked orders for nearly all the swarms I expect to have for sale next year). With a well-managed apiary or bee-farm there will be only a small percentage of swarms, except in some seasons inducive to excessive breeding. The location selected for the apiary often spells success or otherwise, but for myself I am old-fashioned enough to follow the advice of so ancient a bee-keeper as Columella, who said: "Always choose a valley in which to locate your bees." There are many locations in which an extended honey-harvest is obtainable, but in arable-land districts, where rotation of crops is the prevailing system of culture, the harvest is generally of short duration—viz., about six weeks. I have, however, known extra strong stocks

give a good return even in so short a time, so that a fair-sized apiary may yield a satisfactory average of surplus honey.

I have never tried the "doubling" system myself, and so long as a good single colony can fill from four to five racks, each holding twenty-one 1-lb. sections, I am not likely to do so; besides, my best hives are those known as the "Combination." I have tried many others, but am convinced by practical experience that the best all-round hive is the one mentioned above, and if I was starting bee-keeping again next year with my present knowledge of the craft, I should decide on it as the best home for bees, the easiest to manipulate, and the best for the production of honey.—W. Woodley, Beedon, Newbury.

THE SEASON IN CUMBERLAND.

ABSCONDING SWARMS.

[7299.] The season of 1908 has been a very disappointing one in Cumberland, and over the whole of the county the surplus from clover is under the average, while the results from the heather are very poor indeed. The backward spring, following on the previous wet and sunless summer, kept back most stocks, and except in very few well-kept and favourably-situated apiaries the short clover-flow found them not ready to gather it. The heather season was entirely spoiled by adverse weather conditions.

Excessive swarming seems to have been one of the features of the season, and the great number of absconding swarms flying about leads me to inquire from your numerous readers what is the longest distance a swarm has been known to travel in Britain. In a recent issue of *Gleanings* it is stated that swarms have been known to cross Lake Erie, a distance of fifty miles. When we consider that a queen, which might be abroad for the first time for many months after a period of excessive laying, accompanies such a swarm, it seems nothing short of marvellous that such a distance could be covered, as it must have been, without a rest. Many miles must be covered by quite a number of the swarms which abscond every season, and it would be interesting to trace some of them in their travels. It will hardly be suggested that swarms which travel such long distances are led by scouts which have previously surveyed the ground and fixed on a location so far from their original dwelling. The scouts sent out by swarms will probably confine their prospecting to the area generally covered by the foraging bees of the stock from which they come. During a long experience with bees I have seen many swarms abscond, and have followed not a few, some of which were captured, but more continued their flight so far or so quickly that the chase had to be abandoned. The difference in the manner of flying is very marked with different swarms, some rising high and flying very rapidly, while others only seem to hover along at a reasonable walking pace, loitering at every obstacle in their path, such as trees or fences. The swift flying swarms, probably in every case, know where they are going, and in such cases it is useless to attempt to follow them, as they will quickly leave anyone on foot far behind. Those who have noticed an absconding swarm entering an empty hive or a hollow tree will have marvelled at the rapidity with which they hive themselves, a fact which seems to bear out the contention that the scouts, probably a large number of them, had previously selected this as the new home. Many old bee-keepers who keep an empty skep or hive standing about can tell almost to a certainty that a swarm will take possession soon by the actions of the scouts flying in and out of this decoy hive. Often these scouts will be in possession for days previous to the coming of the swarm, guarding the entrance much in the same way as the bees of an established stock do, only leaving each evening on the approach of dusk, to return early on the next day. The longest distance I have followed a swarm was over three miles. The swarm in question came out about midday and settled on the top branch of a very tall tree, where it was impossible to reach them. They remained there until soon after 6 a.m. on the following morning, when they went off, and after being kept in sight for over three miles they came down and settled in a potato field, where they were hived successfully. Is it generally found that swarms which fly far enter a hive or other cavity, or do they settle for a time after the manner of swarms that have just left the hive?—G. W. Avery, Heads Nook, November 28.

MR. SILVER AND UNITING BEES.

[7300.] I am extremely sorry Mr. Silver goes to so much trouble to make a disclaimer about an accusation which has no existence except in his own mind (7295, page 476). I do not know why he should read into my letter statements that are not there, and I do not find that I have anywhere intimated that he has "stolen my goods and palmed them off as his own."

I was under the impression Mr. Silver had made the statement that in no bee-book had he found any mention of uniting queenless bees. I was, however,

aware that the fact had already been published in each of my several editions of "A Modern Bee-Farm," and I suggested your correspondent might be interested to know such had been the case.

But even now he assures me he fails to find any such thing in my works. Will he be good enough to refer to page 20 in 1888 edition; page 23, 1903; and page 25 in the 1904 issue, where he will find the facts as to uniting queenless bees, and the words "first made queenless" are in italics? And yet he assures me he has read these works "more than once"!

I should feel flattered by the favourable opinion Mr. Silver expresses as to the pleasure it has given him in reading "A Modern Bee-Farm," were it not for the somewhat abusive and, I think, needless remarks that he sees fit to make in concluding his article. Evidently he was not interested to know, as I thought he might be, that the method he referred to had already been published.

With regard to driven bees, I most certainly consider it a wasteful plan to add driven bees to stocks as many do, and, as I have shown, very many are worn out without doing any good to the stock; whereas if hived in strong lots on to spare combs in the first instance, and united to other stocks after they have developed a large brood-nest, with many young hatching, much better results are to be secured.

Surely Mr. Silver is not serious in thinking I know so little about uniting, though it is unfortunate he should thus "let himself go" in declaring my ignorance of the point under discussion just because he considers he has failed to stumble upon it in any published work. I can assure him that during the autumn especially I am uniting nearly every day for hours at a stretch, and the operations are carried out under every conceivable condition without a hitch.

After all, the plan of preparing queenless bees for uniting, except in the case of those varieties known to be pugnacious, is of value only to the novice, for the expert can carry out the operation just as he removes either or all queens but one, without any interval, and with no daubing of the poor bees with syrup or flour.—S. Simmins, Heathfield, Sussex.

THE SEASON IN WEST ESSEX.

[7301.] So far as the writer is concerned, this season has been a good one, my best hive yielding about 100 sections, and would have been higher but that I robbed them of four frames of brood at swarming-time.

Swarms were plentiful. One strong stock sent three out. I then removed another lot in a box to a new location, and placed the first hive on that stand, after which it sent three more swarms out, one of which returned home soon after. Prices have ruled low—a few at 8s. per dozen and many at 7s. per dozen.

Out-apiaries.—In reply to Mr. G. W. Smith (7279), I may say that I have established a small out-apiary, which did very well this summer. One lot, however—a swarm which I hived on May 22—after nearly filling forty sections, appears to have swarmed for lack of room in early July, as, despite beautiful weather and abundance of nectar, no more was stored in supers; and autumn examination revealed two empty queen-cells and stock queenless, which is the weak spot in out-apiaries—viz., loss of swarms.

This is a splendid district for clover and sainfoin, but cash is too short to take full advantage of it. When are we to see those photos of famous bee-men? Best wishes.—West Essex.

BEE-STINGS AND CURES.

[7302.] After reading the letters on page 466, along with others on the same subject in previous issues, it seems to me very many bee-keepers, especially beginners, are in a hurry when manipulating their bees. If they would keep in mind at all times to move their hands very slowly bees will very rarely attack them; and if they do see one dart towards their hands they should stand quite still without moving their hands at all. The bee or bees will perhaps hover around for a few seconds, and then they will re-enter their hive. By keeping these things in mind I rarely get a sting, and even then it is usually by inadvertently putting my fingers on a bee, and when this happens I am more concerned at losing the bee than about being stung. Yet I am stone-deaf, and was so when I began bee-keeping fourteen years ago. As for the assertion that after being stung a few times we do not feel the smart so much when again stung, I can only say that my experience is that it pains me just as much as or even more than when I first began, especially if I am stung between my fingers.

Packing Honey for Transit.—I find the easiest way to pack sections is to make a box of very thin boards, holding from one to six dozen, as may be needed, so that when lined with paper the number just fits in. This box is then placed in another stronger box or crate, on a good pad of straw, and more straw pressed in fairly tight all round, not less than 2 in. thick, the same on top before the lid is fastened down, preferably with screws. There should be cleats or handles on the outer case, so that the railway men need not have an excuse for bumping. The

absence of convenient handles to lift by is the main cause of damage. When sending honey in glass jars they should have a wrapping of paper round each, but no inner box is required. They should, however, have 2 in. at least of straw wedged tightly around them, in addition to a 2-in. pad to stand on, and the same on top. I find that this and a strong, rough box are all that is needed for ensuring safety on rail. I prefer a stout willow withe securely fastened, like the handle of a basket. Then no other packages are likely to be placed on top. They should be labelled "Honey in Glass Jars." I have been assured that, packed thus, honey would travel round the world without damage.

Ripening Honey.—Is not this largely a question of district? Here, with surplus gathering over by July 20 to 24, I find honey quite ripe for extracting by August 1. If left on later the honey thickens too much to extract easily, and combs are likely to break in the extractor. I am careful to exclude the air as much as possible from the honey; it then granulates with a crust-like surface either in 1-lb. jars or 30-lb. tins. One can only suppose that when honey goes thin while on tap the bee-keeper is careless about excluding the air.—A. H., Wavendon, November 23.

BEES DESTROYED BY RATS.

HOW CAN I GET RID OF A PEST?

[7303.] I should like to get the opinion of readers of the BEE JOURNAL on the best way to get rid of rats. My bees are situated in a field right away from any house, and during this autumn the rats have been so busy among the hives that they have not only eaten their way into a straw skep, but have eaten the woodwork at the entrances of about a dozen of my frame-hives. I feel certain if I had not seen it in time they would have got in and destroyed the bees. I am also greatly troubled with a number of rats in the roof of my dwelling-house. I have tried three different kinds of poison, but am still unable to get rid of them. They make such a noise at night in the roof that I cannot sleep. Any suggestions from readers to enable me to get rid of the pests I shall be most thankful for. Name sent for reference. — REGULAR READER, Wiltshire.

VICIOUS BEES.

A SOUTH AFRICAN BEE-MAN'S EXCITING EXPERIENCE.

[7304.] A correspondent, writing to the B.B.J. (page 338), complains of having trouble with vicious bees, and in your reply you relate an unpleasant experience which occurred to yourself.

Since reading above I have had an experience which will, no doubt, be of interest to readers, as it bears out some of the stories we sometimes hear about our pets, and which, as a rule, we are inclined to put down as calumnies. In South Africa we find bees in every conceivable place, from the metal pillars supporting the water-tanks at our railway stations to a hole in an ant-heap, and, consequently, become expert at transferring them, no matter where we find them. The hive in question seemed a particularly easy one to deal with, as the bees were located in a packing-case, or, rather, two cases, one inverted and the other fitting over the month of it, and would be, I should say, about the capacity of five standard hives at least, but not, however, as large as one I transferred a few months before from a casement, the combs being over 2 ft. square in many instances.

A cursory glance before commencing operations convinced me that I had tartars to tackle, and made me particularly cautious. Approaching with a good smoker, I gave the bees a few puffs at the principal opening, then at other cracks in the boxes, and returned to the house for the necessary appliances. Coming back to the hive, I could see the bees were not subdued, so I gave them another light dose of smoke, and waited a few seconds for results. The bees now commenced darting about in a very threatening manner, and more smoke was administered both to those in the hive and to those on the wing.

Up till now I had only removed a sheet of iron and a couple of sacks from the top of the hive, although in most cases I would have had bees and combs in separate boxes in less time. Finding the bees becoming more menacing, I quietly withdrew, hoping that in a few moments, with my presence removed, they would settle down again. On entering the house a glance through the window assured me that hostilities had begun in earnest. Three dogs which were chained up in the yard commenced howling and struggling in a heap together, and there was no need to inquire the reason. A moment sufficed to set them free, and two made a dash for the house, where they remained the rest of the day. The other went in pursuit of its master, bringing with it a strong force of the enemy, the said master being also in full retreat at the same time from a similar cause. Almost at the same time that the dogs were attacked the fowls were seen flying in all directions, each having its share of winged destruction in hot pursuit, and in a very few moments many of them dropped down to die, with their heads literally covered with stings. In all fourteen succumbed, although we

endeavoured, as far as possible, to get them removed inside. Every living thing that came about the place was instantly attacked with the same relentless fury. Fortunately, all the stock were out of reach, except one horse. A bucketful of smoking fuel before the door acted as a kind of protection till we got the stable bee-proof, although it did not protect us while doing it. My wife and two children, together with the gentleman who owned the bees, happened to be in the garden. They were naturally the first to claim attention, and, as the path from the garden led close up to the hive, the work of rescue was beset with the greatest difficulty, and was only effected through the aid of rugs. Once inside the house, it was impossible to open the door ever so little without admitting a dozen or so of bees, which, when once inside, attacked the inmates with fiendish ferocity, although every room in the house was reeking with smoke and fumes of sulphur, in order to keep them out. Outside every window numbers could be seen darting to and fro, and noticeably when anyone slipped indoors they hurled themselves against the panes in a vain endeavour to get inside. All day long—from 11 o'clock right up till sundown—did the relentless foe wage a hot battle, and although they withdrew from the doors and windows about 4 in the afternoon, yet move a few paces away from the house, and they attacked as viciously as before.

One most remarkable feature was the way they sought out a foe to strike and the method in their madness in stinging. Only on the head of a fowl were there any bees to be seen, and it was literally a ball of bees in many instances. The stings, too, were a feature in themselves, many of them drawing blood, and every one being unusually painful.

Being an old hand, stings, as a rule, do not trouble me much, and, unless I get one about the eyes, the effect passes away in a few moments; but I was surprised next day to find my hands and arms one mass of mattery blisters. The number of stings received was entirely past reckoning, and, although well protected with a veil about the head, I bore many marks of stings there also.

No doubt from the foregoing you will get the impression that we must have a very undesirable class of bee in this country, yet such is not the case. Most of those that I have handled are really fine insects to work with, and very gentle do they become in a short time under proper treatment—so much so that with my own bees I have rarely any need to use a smoker or veil, and, best of all, as far as is known up to the present, we have no disease to contend with.

Since above was written I have been informed the same bees ran amok again six days later, and stung with the same reckless abandon everything about the place, till the owner was compelled at night-time to destroy them. A spell of wet weather kept them in the hive during the intervening period.

As the day, season, and conditions were most favourable for manipulating, I am at a loss to know why the bees in question should have acted so. I am inclined to put it down to viciousness entirely. Do you think so; or does your wide experience suggest any other cause or error in my method? The box, save for the sacks on top, was undisturbed, and, so far as the present owner is concerned, has remained so for over a year. Your journal is much appreciated and digested every week by—HIBERNIAN, Natal.

[Such sudden ferocious attacks by bees are fortunately very rare, and are nearly always made by bees either of the Cyprian or the African variety, both of which have the peculiar characteristic of being for the most part extremely quiet when being handled; yet at times, and without any known reason, they break out into such ungovernable fits of fury as our correspondent has described. We can offer no other explanation of what happened in the case in question.—EDS.]

FAIR-Y TALES.

[7305.] All the rent, all the boots, small luxuries, and, besides, ambrosial sweets. "Nothing could be fairer nor that," till you get to the fair, where buyers are many, sellers too few, and the lucky ones book "repeat orders." How dare one question it, striking an attitude of amazement with upraised hands, while the side-cast eyes speak scepticism? I don't. It is Scotch and true—synonymous terms. The writer (always esteemed by your readers) is invariably sure of his facts. True, the Irish are given to joking, even if it be with a shillelagh; but a Right Hon. Vice-President at Dublin Castle may be relied on when he tells us of the Irish farmer starting with 35s. profit from two hives, and making £125 in the fifth year (*vide* page 472). This is no joke, or, if a joke, it is one many a droll Hibernian would keenly relish. I mean to keep some of these notes by me for "dear hearers" in good old Zumerzet.

From Somerset to Yorkshire (Ilkley, to wit) is a good six hours' run, but both places are in our own country. I'd like to get there faster to see whether our fellow-countryman has been judging mead from last season's honey, or dreaming that Christmas is already come and he is transported to Paradise. With its simple

life must have come blurred visions of costumes and shop-windows at Shoolbred, *Liberty*, or Worth. What a delightful haze! And where the primitive costume lacks *breadth* and length, he, with instinctive propriety, would "a tail unfold."

Oh, dear! Your printers have been at it again! See what they have done with poor Mr. Crawshaw's copy. When he has got things straight again they make him unable to spell a most ordinary compound word—damp-roof—by putting the hyphen in the wrong place; and they even pick up a chance letter *out* of some pie (it isn't *in* "pie"), and jerk it in. Never mind, Mr. Crawshaw; a bit of calico at 2½d. a yard will make everything proper.

Page 475.—Is that a smoker in Mr. Sainsbury's left hand? Is little Fairy *Queen* asleep in that contrivance, much like a travelling frame-hive, but with no glass at the back, under the swing?

We talk so much about our bees that I think it only *fair* bee-*masters* should be the *subject* once in a way.—S. JORDAN, Bristol, November 28.

Queries and Replies.

[3846.] *Managing Out-apiaries.*—Will you kindly favour me with your comments on the following queries through the B.B.J.? 1. What kind of hive would *you* use for an out-apiary? 2. Can bees in a "claustral" hive be safely moved by road by simply shutting up the hive? 3. Supposing the entrance of a hive was covered with a piece of excluder-zinc and the bees swarmed. As the queen could not escape, would the bees return and not swarm again? 4. Supposing a hive was constructed as per attached sketch, which shows a swarm-catching section in front of the brood-frames. The entrance to hive being covered with excluder-zinc, which prevents the queen escaping with swarm, when possibly she would go through one of the bee-escapes shown and enter the swarm-section, do you think the bees would join her? The little arrangement seems all right on paper, but do you think it would be a success in practice? 5. If the entrance of a hive was entirely covered with excluder-zinc (as shown in sketch), do you think it would greatly impede the bees' progress during the honey-flow; in other words, would the bees be able to get in and out fast enough? Thanking you for past favours, I send name and sign—ROBIN HOOD, Bristol, November 24.

REPLY.—1. We should make no difference from the ordinary hive used in the home apiary, relying on the "management" adopted rather than the hive used. That would mean providing ample room, shade, and ventilation in advance of actual requirements. In other words, if bees are only visited once a week, time must be taken by the forelock and nothing overlooked that is likely to occur before the hives are seen again. 2. Yes, if the ordinary precautions with regard to moving are observed. 3. We advise you not to try this plan of preventing loss of swarms, "for reasons too numerous to mention." 4. You may take it from us that however carefully you have worked out the details of the careful and accurate sketch, and however right it may appear on paper, it would fail in practice to secure the end in view, so it would only be wasting money to have it reproduced, as we have seen many more promising plans than yours utterly fail when put to a practical test. 5. To do as suggested would spoil all chance of a stock of bees working satisfactorily in the busy season, and create confusion and uproar among the bees in warm weather.

[3847.] *Coverings for Hive-roofs.*—I am making hives for next season, and intended covering roofs with sheet zinc until reading Mr. Crawshaw's "Cappings" article in the B.B.J. for November 26 (page 478), in which he says he "cannot think that one can find this detestable material satisfactory." I should much like to know: 1. What are the objections to zinc, apart from cost? It is advised on page 42 of the "Guide Book" as a roof-covering. 2. As regards calico, which Mr. Crawshaw advises, could you tell me the best method of fixing to roof, also what oil to use for a preparation? Do you recommend calico? 3. I must thank you for your replies to my last questions as to queen-rearing, and should like to know what, in your opinion, are the best "all-round" bees to go in for. 4. Lastly, to unite two stocks, it is advised to bring hives close together. I have been told that in moving hives it must be done very gradually, or the bees will not find their way back. Will this have any bearing on uniting two stocks that stand 30 yards apart, or can one hive be carried at once to the other? If so, will the bees brought from a distance not return to the old spot? Your advice on these matters will be much appreciated. Name sent for reference.—NOVICE, Hants.

REPLY.—1. If the zinc has a coat of white paint, which helps to keep the metal cool, we have no objection to it as a roof-covering. 2. Mr. Crawshaw's method given on page 478 is as good as any we know of. 3. Without desiring to underrate the good qualities of specially reared and selected queens of some foreign

bees, we regard the native, if of fairly pure strain, to be unsurpassed for honey-gathering and all-round good qualities. 4. It will be necessary to bring the hives gradually together before uniting, unless we have a cold period—lasting for three or four weeks—in which the bees are confined to their hives. In the latter case the bees could be united the first warm day and the hives brought together at one move.

[3848.] *Temporary Out-apiaries.*—As a regular reader of your interesting journal, may I ask the following question? If one has more stocks than it is found profitable to keep in one apiary, is it practicable or good management to keep all the hives in one apiary for the greater part of the year, and remove some of them to a distance just for the honey-flow and bring them back when the ingathering has stopped? If this could be done, all autumn feeding, preparations for wintering, spring overhauling, stimulating, &c., could be got through at the apiary selected for the purpose. I know, of course, that bees are removed in this way to the heather, but not having heard of anyone working on these lines for the main honey-flow, and never having tried it myself, I wondered if such a system would be successful if carried out properly. For myself, I would prefer the plan suggested rather than have permanent out-apiaries. If you kindly favour me with a brief reply in the columns of the B.B.J. it will be of great help to me in forming my plans for next year's work, and may also at the same time be assisting others. Name sent for reference.—AMATEUR, Worcestershire, November 21.

REPLY.—There would be no great difficulty in carrying out such an experiment as is described above beyond the labour and trouble involved; but we are quite sure it would not work out as a success. In principle it is the same as moving bees along rivers to different sources of forage, as is done in some parts of America and elsewhere; but in these cases the hives are left "on board," and thus all trouble of transhipment is avoided.

[3849.] *Spraying Combs for Storing Away.*—Being a constant reader of the B.B.J., I should be glad if you will give me a little information on the following: In the "Guide Book" (page 194) it is recommended to spray the combs with soluble phenyle before storing them away. I keep my shallow-frames of comb in a large, dry shed, stored up in crates, and if I were to spray them now would the combs dry without going mouldy, and would it make the honey taste of the phenyle when using again in summer? Also which recipe should I use—No. 8 or 9? Your reply will oblige.—H. BUTLER, Kidderminster.

REPLY.—The combs will not become mouldy if the storage-place is dry and airy, though there may be danger of moths getting among them if kept for a long time without being wrapped in paper. Do not forget that *soluble* phenyle—not ordinary phenyle—must be used for spraying combs. No. 8 is the correct recipe to use.

Notices to Correspondents.

*** *Rendering Help with Bees.*—Referring to Query 3845 (page 480) in our issue of last week, a correspondent residing in Bath kindly writes as follows: "I note from a query in last week's B.B.J. that Mr. O. C. Griffith has some difficulty in giving proper attention to his bees at the proper season, and beg to say if your correspondent cares to accept what assistance I can offer, I shall be only too pleased to render it, as I do not like to think that anyone's bees are in such a plight on account of the ill-health of their keeper. I may say I have three hives of my own."

J. M. BEST (St. Austell).—*Recipe for Honey Drops.*—The recipe was written by Bro. Columban himself, and we have no doubt that the quantities given are correct. It must therefore, we fear, be some fault in the making that has caused your failure. To make sure, however, we will communicate with Bro. Columban on the subject, and publish his reply in due course.

J. E. S. (Walden).—*Patenting Bee-appliances.*—Without an inspection of the appliance you propose to manufacture we can form no idea with regard to its value. On the other hand, unless there is likely to be a good demand for an appliance costing even as much as stated, you should not think of going further than the first stage in patenting—viz., to have it protected for a short period. Any patent agent would inform you of the lowest cost.

EXHIBITOR (Scotland).—*Judging Honey at Scotch Show.*—The opinion expressed in our footnote to the letter signed "Smoke" (7280, page 464) was based on "personal experience," as stated, and we will be glad if you can prevail upon the gentleman, whom we know very well, to give his views on the letter in question and on our view of the case as stated therein. With regard to the leaf of a show schedule in which judges are supplied with a "code of points" upon which their awards must be made, we do not think that sort of thing will commend itself for use at shows in England, where we may, without offence, say that reliance is placed upon the competence of judges rather than on that of the compilers of schedules.

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PURE ENGLISH HONEY, from White Clover, in 1 lb. Screw-capped Bottles, 8s. 6d. per dozen, carriage paid.—T. WELLS, 2, Claudius-road, Colchester. m 25

CHEAP APPLIANCES.—Send for list of soiled Extractors, Smokers, &c.—MEADOWS, Syston. m 24

FOR SALE, "British Bee Journal," from commencement, May, 1873, to December, 1885, bound cloth, £2.—D. FAIRWEATHER, Muirside-of-Kinnell, Friockheim, Arbroath. m 28

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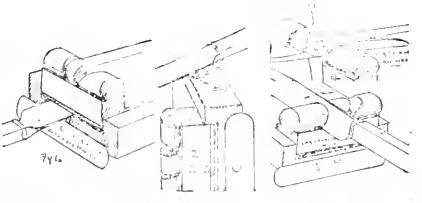

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British Bee Journal

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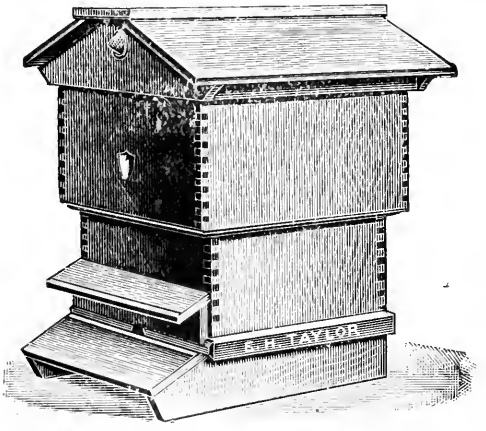

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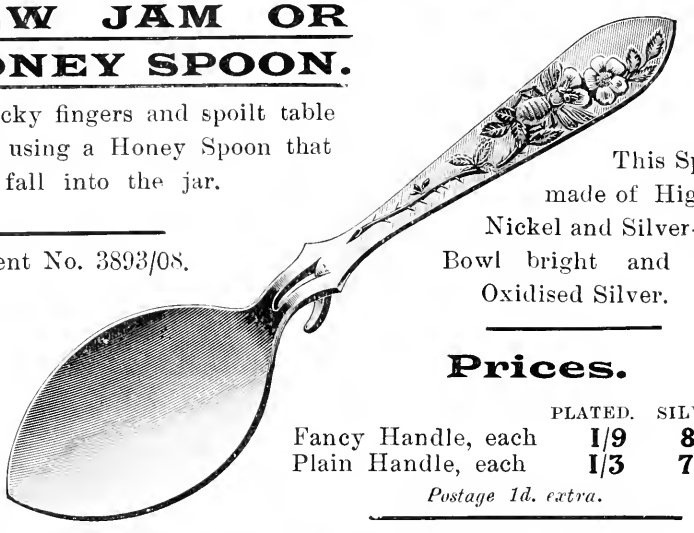

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BEE JOURNAL AND RECORD OFFICE,

8, Henrietta-street, Covent Garden, W.C.

Editorial, Notices, &c.

REVIEWS OF FOREIGN BEE-JOURNALS.

By "Nemo."

Weight and Strength of the Bee.—The Abbé Delaigues, in *L'Union Apicole*, says that a bee, which weighs about one decigramme (1.543 grains), can draw on a level surface more than twenty times its own weight. With regard to the quantity of honey the insect can gather, it has been estimated that a bee can fill and discharge her honey-sac, which may contain three decigrammes (4.629 grains), eighteen to twenty times a day. Evidence goes to prove that the strength of the bee is from twenty to twenty-five times greater in proportion than the strength of man.

The Bear and Honey.—An amusing incident with a bear is related in the *Deutsche Imker aus Böhmen*. It is said that Count Schönburg recently sent a brown bear from Glatzen to Halle a. d. Saale by rail. During the journey to Eger, being of an inquisitive turn of mind, Master Bruin managed to break down the partition and examined the other goods in the van. He consumed two geese, several kilos of butter, and a basket of cherries. Two baskets of eggs were trodden to pieces and scattered about, as was also a parcel of margarine. On arrival at Eger the railway official opened the van, when Bruin received him with extended arms. Needless to say, the door was hurriedly closed. The consignor was then sent for, and quieted the bear by giving him a piece of honey-comb so that he could again be made secure in his own apartment.

Recipes for Christmas.—We find the following recipes in the *Praktischer Wegweiser*:—Honey Cakes.—1 kilo. (2¼ lb.) of honey is first boiled with ¼ kilo. (½ lb.) of butter. To this add 1 kilo. (2¼ lb.) of flour, 200 gr. (3½ oz.) of almonds, the rind of a lemon, 4 gr. (62 grains) of cloves, 4 gr. (62 grains) of cardamom, and thoroughly mix. Dissolve 30 gr. (16½ drams) of pure potash in a small quantity of water, and add it to the dough when it has cooled a little. The whole is now allowed to stand for twenty-four hours, and can then be rolled out to ½ in. in thickness, cut into shapes and baked until it assumes a nice golden-brown colour. Choice Gingerbread.—Boil 750 gr. (1 lb. 10 oz.) of honey and dissolve in it 750 gr. (1 lb. 10 oz.) of crushed sugar. Then mix 40 gr. (21½ drams) of cinnamon, 30 gr. (16½ drams) of cloves, the peel of a lemon chopped fine, 20 gr. (10¾ drams) of potash, and 1 k. 250 gr. (2 lb. 14 oz.) of flour. Thoroughly knead the whole with the hands into a dough, roll to desired thickness, cut into squares, and bake on a thin metal plate covered with flour.

Adulteration of Honey in Germany.—In an article in the *Schleswig-Holstein Bienenzeitung*, C. Frohloff, a member of the firm of Dr. O. Follenius, of Hamburg, manufacturers of fruit-sugar, mentions eight well-known houses who sell foreign and artificial honey as genuine German honey. It would be interesting to know if the firm's fruit-sugar is used for this purpose.

European Honey Production.—The following statistics respecting the honey production in Europe are given in the *Handels Museum*. From these it appears that France produces 10,000 tons of honey with 950,000 hives; Holland, 2,500 tons with 240,000 hives; Belgium, 2,000 tons with 200,000 hives; Germany, 20,000 tons with 1,910,000 hives; Spain and Portugal, 19,000 tons with 1,690,000 hives; Austria-Hungary, 18,000 tons with 1,550,000 hives; Greece, 1,400 tons with 30,000 hives; Russia, 900 tons with 110,000 hives; Denmark, 900 tons with 9,000 hives; England and Italy produce about 25,000 tons of honey. The total value of the honey produced is said to be about £3,000,000.

BEES' STINGS AND RHEUMATISM.

By E. W. Ainley Walker, D.M.Oxon.*

(*Continued from page* 484.)

Letters from Laymen—Indefinite and Negative.

32. P. L. F. (England) has kept bees since 1870, and was formerly often stung severely, but now only keeps a few hives, and in recent years has not been stung much, owing to his long experience in manipulation. In November, 1904, he had a first attack of rheumatic fever, and has since then never been free from slight twinges of rheumatism, which fly about from joint to joint. The rheumatism is so slight that he is unwilling to accept the suggestion of experimenting on it with bees' stings.

33. A. T. (Scotland) has kept bees since he was twelve years old, and is now sixty-seven. Thirty to forty years ago he was much troubled with lumbago and rheumatism. In later years has been comparatively free; he also finds that he is now relatively immune to bees' stings.

34. J. P. (England), a "bee-expert." "In the early part of the year (1907) I was off duty five weeks, and did not get one hour's sleep per night for three months with rheumatism, therefore I am no believer in it (the bee-sting protection)."

* Reprinted from the *British Medical Journal*.

35. J. P. P. (England)—an official of a bee-keepers' association—writes: "There is no doubt that these (bees' stings) have been beneficial in many cases, but I could gather only negative evidence among bee-keepers I was acquainted with. A is an enthusiastic and most successful bee-keeper of thirty or more years' standing, and he has on more than one occasion written . . . stating that he was laid up with rheumatism. B was formerly employed as an expert . . . and was sometimes prevented . . . by an attack of rheumatism. C, although having charge of several apiaries besides his own, suffers much from rheumatism."

36. J. B. (England). See No. 21. One successful and one unsuccessful case.

37. M. D. T. (U.S.A.): "Kin Sir, I read in the Gleanings in 'Bee Culture' that you would like to corspond with American Bee Keepers in regard to the formic acid from a bee sting in the human Body will Cure rheumatic fever I have bin in the Bee Bisness for over 50 years and have Bin stung thousands of times and have had rheumatis for over 30 years and have never resieved a bit of benifit from bee sting often haven bin stung eight and ten times in handling one coloney of Bees my Father always kept Bees and he had rheumatis for years Before he died he always said that Bee stings caused him to have the rheumatis one of my neighbors had rheumatic for years and keep Bees and was some times stung Bad and it never helped him and he had the rheumatic so bad buy times he could hardley walk I have travelid over United States a good deal and I never cam a crost a man that ever has bin benifited by Bee stings it is all *Bosh* to think of sutch a thing if this reaches you I would like to hear from you in riturn."

From the Lay Press.

38. *Bee-keepers' Record*, May, 1904.—Mr. G. B. (Northamptonshire) relates having been a sufferer from gout and rheumatism, sometimes being "prostrated for weeks at a time"; he was severely stung on one occasion, and had to go to bed. After that he never suffered from rheumatism again, and writes this at the age of seventy.

39. *Bee-keepers' Record*, November, 1905, quotes the *Rheinische Bienen-Zeitung* to the effect that nothing is better for rheumatism than bees' stings. In winter (the writer continues) nothing is better than honey diluted with water, to which is added lemon juice.*

40. *Bee-keepers' Record*, October, 1906: Mr. W. S. P. (Birmingham) writes that after being severely stung by bees he never suffered from rheumatism or lumbago again. He had at the time of writing had six years' immunity.*

41. *Weekly Scotsman*, November 9, 1907. Mr. H. H. (Johannesburg) writes: "While visiting some people here . . . I heard of a friend who had been crippled, and perfectly unable to work (in mining) for some time past, but who is now quite restored by the above (bees' stings) remedy. He simply allowed about five insects to sting him where the pain was at the time. This went on for several days, and after he had received ninety-eight stings he was cured, and was able to resume work.

42. An unidentified cutting: "Since the insertion of my letter of June 28, 'Bees and Rheumatism,' I have received several letters asking how many stings ought to be applied in bad cases. Well, my first case was bad enough—a man with a very bad foot. He had to have the better part of the upper leather of his boot cut away, and when I saw him he was lying on a sofa and could not use his foot. I put six stings in his foot, and the second day he was at work, and the foot quite better."

The next case was a man that had been off work six weeks with rheumatism in his leg. He got seven or eight stings, and started work the next day.

43. *Rugby Advertiser*, March 31, 1904: "On Tuesday, March 22, Mr. C. . . . gave a lecture on Bees and Bee-keeping. . . . The lecturer narrated how he got severely stung in the arms while taking honey, and continued: 'That morning I took four arms to school with me instead of two, but, strange to say, I felt no pain. In three or four days the swelling had gone—yes, and something else had gone too. For years I had suffered from rheumatism in my shoulders, often lying for hours without being able to sleep. Since that stinging the rheumatism has quite gone!'"

44. British Bee Journal, October 3, 1907: In publishing my letter of inquiry, the editors append the following note: "Since the first publication, some seventeen or eighteen years ago, of the theory advanced by an Austrian physician, Dr. Terc . . . that . . . the virus of the bee-sting is an infallible remedy for acute (*sic*) rheumatism, it has had ample confirmation in a number of cases recorded in the British Bee Journal and other bee-papers. . . ."

From the Medical Press.

45. The *London Medical Record*, 1885, xiii, p. 178: "Cure of Rheumatism.—*El Siglo Médico* relates the following singular case from La Paz, Bolivia. A woman had suffered so much from rheumatism

* Note, as regards the use of honey, that before sealing up each cell in the honeycomb the worker-bee injects into it a small amount of its poison as a preservative.

* Nos. 38, 39, and 40 were communicated by Dr. Frederic Vicars.

that for six months she had hardly slept. Her right arm was so affected that it was quite useless; she could not work with it, nor dress herself. While in this state she heard of a countryman who suffered in the same way, and who had been cured by the accidental sting of a bee. As the pain caused by the sting could not be worse than that due to the rheumatism, she determined to try the same remedy. Three bees were obtained and made to sting her on the right arm. The success of the treatment was surprising and complete. On the following night she was able to sleep, and the acute pain had all but completely disappeared. The arm was naturally a good deal swollen, but the swelling quickly disappeared with cold-water dressing. The use of the arm gradually returned, and since there has been no symptom of rheumatism. It is said that the same remedy has been equally successful in several other persons."

46. *Medical Press*, 1889, i, p. 175: "Dr. Terc has noticed that rheumatic subjects are less susceptible to the effects of bee-stings than most people, the tumefaction only presenting itself after several stings. If these be repeated a point of saturation is soon reached at which it can no longer be induced. Curiously enough, when that point is reached, the patients are also relieved of their rheumatism, and appear to be proof for some time against a relapse. Dr. Tere considers, therefore, that it is possible to procure an immunity against rheumatism by saturating the patient with the poison of the bee. He has even tried it in 173 cases, in which 39,000 stings were inflicted. He claims to have obtained some success in the treatment of acute cases, but it was especially of benefit in the chronic forms, when the patients seemed almost past help. Some of them, however, required several hundred stings before they expressed themselves satisfied, but the author hastens to inform us that rheumatic patients are less sensitive to bee-stings than ordinary healthy persons."

47. *British Medical Journal*, 1896, i, p. 383: Dr. J. W. Gill records experiences with bees' stings, and mentions the case of a friend under treatment for "gout and valvular disease," who was severely stung by a bee over the left eyebrow, with great local reaction. His gout disappeared, and for several months he was never better. (See also the same *Journal* for July 6, 1907. Letter from Dr. Gill.)

48. *Medical Press and Circular*, June 3, 1903, refers to Dr. Tere's treatment.

49. *British Journal of Nursing*, September 19, 1903, refers to Dr. Tere's treatment.

50. *Medical Annual*, 1904, Acute Rheumatism, refers to Dr. Tere's treatment.

51. *British Medical Journal*, 1907, i, p. 1579: The late Dr. Bertram Abrahams wrote, in reply to my inquiries: "I am sure that anyone with much experience of treating joint affections will have met with many patients who have tried the bee-sting as a means of cure. Belief in its efficacy is widely diffused, especially, it would appear, in the Midlands and the Fen Country. As far as I can ascertain, it is used chiefly in cases of acute articular rheumatism I have known it to be applied also in the acute exacerbations of arthritis deformans, but I have so far not met with an instance of its use in gout. . . ."

52. *La Province Médicale*, No. 38, September, 1907: "*Piqûres d'abeilles* . . . le Dr. Lamarche de Saint-Marcellin a adressé la communication suivante à la Société nationale de médecine de Lyon. . . . Vous connaissez certainement l'usage populaire des piqûres d'abeilles contre les douleurs rhumatismales. Plusieurs clients m'ont dit en avoir usé avec succès après m'avoir consulté sans succès. Moi-même, souvent atteint de rhumatisme musculaire ou de névralgies rhumatismales autrefois, je n'en souffre plus jamais depuis que je suis souvent piqué (*post hoc, ergo propter hoc?*). J'ai alors essayé ce moyen dans un cas de sciatique extrêmement douloureuse et chronique, et la malade, qui depuis plusieurs mois passait ses nuits à gémer, immédiatement après une séance de cinq piqûres a passé quarante-huit heures à peu près indolores. Une série de séances avec augmentation progressive de la dose d'abeilles a amené une guérison presque complète."*

(*Concluded next week.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

AMONG THE BEES.

[7306.] *Dietetic Value of Honey.*—According to Dr. F. W. Forbes Ross, of Edinburgh, fine honey gives more than 1,000 units of force or energy per pound weight, as against 500 units from one pound of butcher's meat. It is certain that in the most ancient times honey was a favourite food.

* Kindly sent me by C. Louis Taylor, Esq.

Jamaica Honey.—According to the *Caterer*, on what authority I know not, "it is urged that the special honey concentrating in itself special merits, both in a dietetic and also in a medicinal sense, can only be found in Jamaica. The original name of the island signified 'the land of wood and water.' It is also in some respects a land of flowers, because of its many rivers, which, though too short for commercial uses, tend, in conjunction with the great mean heat the whole year through, to produce amazing quantities of flowers."

A Honey Cure.—A correspondent writes:—"In confirmation of your statement about the therapeutic properties of honey it may interest you to know that a friend of mine was cured of obstinate carbuncles by applying plasters of honey and flour, and this after the doctors had failed to give him any relief." Well-authenticated cases like the foregoing deserve to be put on record in the pages of the JOURNAL.

Heather in Summer.—The same gentleman also informs me that this year he had the pleasure of securing this rarity. "I was surprised to find heather-honey coming in this year in May and June, and at first could not account for it. It was in such quantities that my extracting frames would not extract cleanly. Last week I visited a friend living near me who has about ten acres of garden, and I find he has been planting Mediterranean and other spring and summer flowering heaths by the thousand." This is in Cumberland. I know an estate near Aberdeen noted for a magnificent collection of all kinds of pines and an immense number and variety of Cape and Mediterranean heaths, and I find bees work on them with avidity in fine weather. But even in their thousands I fear that the honey-harvest will not be very considerably augmented by their presence. Every little, however, makes a mickle.

Selling Honey.—This season I had not to send out my usual circulars intimating that I had honey for sale. Orders came in at an early date, and I had every section sold before the end of September. Repeat orders have come in since, and several inquiries from new would-be customers continue to arrive. The more my experience broadens, the more convinced am I that good honey finds a ready market at a paying price. Although I can have a free advertisement in four or five newspapers, I have not yet found it necessary to take advantage of the privilege, the demand every year, especially for heather-honey, being much in excess of the supply.

Fifty Autumn Bee-flowers.—Following up the lists given for spring and summer, the following autumn bloomers are worthy of attention:—Beans, blaeberry, bluebell, borage, bramble, buckwheat, Canterbury bells, Chapman honey-plant, clover, cornflower, *Erica cinerea*, *Erica tetralix*, escholtzia, fuchsia, gaillardia, globe thistle, hawkweed, heather, hollyhock, ivy, lilac, lime (late-flowering), larkspur, marigold, medicago, melilotus, mespilus, Michaelmas daisy, mignonette, nettle, nasturtium, orchis, phacelia, poppy, privet, ragweed, rape, red clover, sage, saxifrage, saponaria, service-tree, snowberry, sunflower, thistle, thyme, trefoil, vetch, wallflower, whin or gorse. Opinions may differ as to the value of several of these flowers, and, I doubt not, others might have been included, but it is largely a question of seasons and locality.

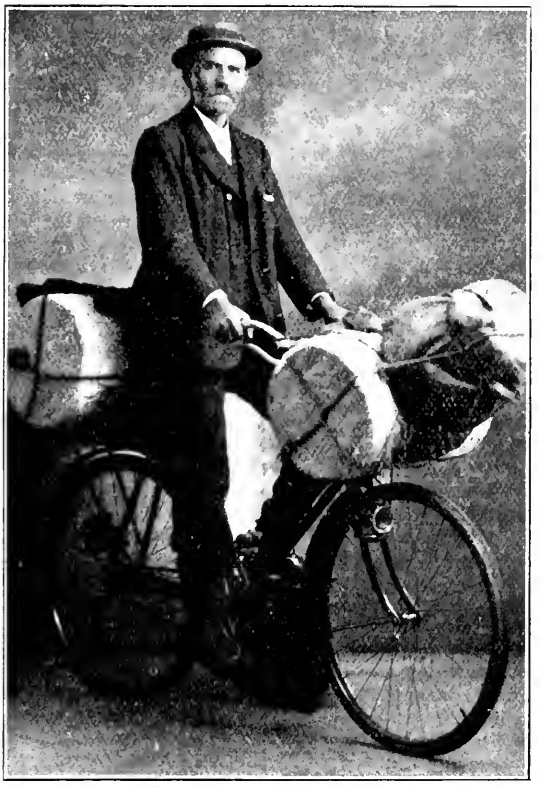
An Indian Summer.—Right through October and most of November the weather was gloriously fine. Bees romped all the time, and I have no doubt a heavy drain on stores has resulted from such unwonted activity. Therefore, at the earliest possible moment in early spring a peep must be taken under quilts to make certain each hive contains sealed stores. The very early cessation of the heather flow (August 25) hindered heavy storing, and, consequently, there must be smaller reserves, especially in hives giving a heavy return of surplus in the form of section honey.

Chill December.—All apicultural work should now be suspended for the season, and bees left severely alone until the balmy breath of spring once more wakens them up to renewed life and energy. Then the "glamour of the lengthening days" will again rouse bees and their owners from the long sleep and rest of winter to the duties of another season of active work. From now onward, for three months or more, should be a season of repose in the apiary. The quiet rest of a long winter is, I often think, the very best preparation for a successful season in the following summer.

A few "useful hints" may be given appropriate to the season. Make certain that inner body-boxes have an ample supply of warm wraps. Personally, I have no desire to pack between inner and outer walls. Assure yourself that hive-roofs are perfectly watertight: if not, make up any defect by covering with a sheet of zinc or felt, laid on loose meanwhile and tied down with twine. Any known shortage of stores should have already been made good. No amendment, with the exception of a cake of candy, is now permissible. Well provided with stores, the interior kept warm and dry, bees, if in fair numbers, headed by a prolific queen, will stand the rigours of our severest winters.—D. M. M., Banff.

CARRYING BEES ON BICYCLES.

[7307.] It may be said that nowadays there is nothing new in apiculture, but perhaps an old idea in a new dress may possess interest for B.B.J. readers. The photo sent shows how I recently rescued some bees from the cruel fate of the sulphur-pit. In the first week in October a postcard came worded thus:—"Come and take my bees or I shall smother them!" The spot was over fifty miles away, far from railway smoke. I rigged up two light baskets covered with porous sacking and four skeps, and cycled off. On the outward journey with the packages empty I covered over fifty miles at the pace of eleven miles an hour without once dismounting. It may be explained that the back of the bicycle is loaded up with three packages just like the front, the six packages with the bees weighing nearly 50lb. Favoured with fine weather, all went well, with the exception of a puncture in one of the tyres, when I had to unpack and reload. All sorts of remarks were made by onlookers, one of them exclaiming: "Look out! Here comes the new flying machine!" He guessed better than he knew, for there were nearly 100,000 excellent flying machines inside the packages.



SIX LOTS OF DRIVEN BEES CARRIED FIFTY MILES.

I may explain that the front carrier is a folding detachable wire one of my own make, on which a ten-frame body-box full of bees or three empty racks of sections can easily be placed. There are many methods of dealing with driven bees, sufficiently numerous and interesting to form an article by itself, the points of importance being (1) a young and vigorous queen, (2) fed up in good time with suitable food, and (3) a sufficient number of bees to enable them to come out strong in spring. With the Editors' permission I will deal with these three points on some future occasion.—JOHN SILVER, Croydon.

A "DIVISIBLE" BROOD-CHAMBER HIVE.

[7308.] Responding to the request contained in Mr. Watson's letter published in your issue of November 19, I would like to give those readers residing in heather districts some particulars of the experiments now being carried out with this hive by members of the Northumberland and Durham B.K.A.

In 1907 ten hives were experimented with, this year forty, and next year it is anticipated that fifty hives will be sent to the moors by the various bee-keepers who are giving the new hive a trial. It will be readily understood that time is necessary to get any comparative results which could be given as conclusive evidence of the possibilities of the hive in the direction of improving the harvest of heather honey, and unless Dr. Ede, Newcastle-upon-Tyne, who is the most successful exponent of the new hive, is prepared to state the results from the hives used by him this season, there will probably be no statistics published until the end of 1909. The experimenters with this hive have had to contend with two of the worst seasons on record—seasons which have been particularly bad for the successful transfer of bees into hives containing frames of a different size from the standard frame; but I know how keen bee-keepers are to take up anything new, and I will now state what I might term the theory of reduction for the heather harvest, in order that those whose thoughts are

moving in similar lines may have the opportunity of co-operating with Northumberland and Durham bee-keepers in investigating the merits and demerits of the "Divisible" brood-chamber hive. That it has been necessary to go to America for a divisible brood-chamber hive is due, I think, to the neglect of Scottish bee-keepers to adapt the "Stewarton" hive to modern requirements. The "Divisible" brood-chamber hive is really the "Heddon" hive much improved, and it is known in America as the "Sectional" hive. It consists of three "sections," two containing shallow brood-frames (eight frames in each section) and the third containing the supers, holding twenty-eight 1-lb. (5 in. by 4 in.) sections. The frames measure 17 in. by 5⅜ in., and are closed-ended.

During the winter, spring, and summer the bees have a brood-nest of two sections, giving a brood-comb area equal to twelve standard frames; but just prior to the heather harvest the brood-nest is reduced to one section, or eight shallow-frames, equal to six standard frames. It is not claimed that this manipulation causes the bees to gather a larger amount of heather honey, but it undoubtedly compels the bees to store a larger proportion of the honey gathered in the supers than they do when they have a deep brood-nest. This point is emphasised in the letter of your correspondent Mr. Low in the B.B.J. of November 19, under the heading "The Season in Aberdeenshire" (7288, page 467), who states that the "weaker colonies yielded only a little surplus, but are well supplied with stores for winter." It is the common experience of North-country bee-keepers to have a large amount of heather honey stored in the brood-nest and little or nothing in the supers; and various methods have been used to get the precious heather honey stored in the supers, of which the following are a few examples taken from correspondence in past years in the B.B.J.: 1. Feed the bees heavily with thick syrup before taking them to the moors, so as to leave as little space as possible for storage of heather honey in the brood-nest. 2. Contract the brood-nest by removing all combs containing little or no brood. 3. Introduce a young queen that will keep all cells occupied with eggs and brood to the exclusion of heather honey, which would presumably be stored in the supers. These plans all point in the same direction, and show that there are too many unoccupied brood-cells in the brood-nest during the heather season, and it is a well-established fact that bees will store the surplus in the brood-combs if they can do so. There are seasons when success at the moors is easy, but usually the harvest is disappointing. I have never known a heather season, however, when the bees did not store an amount of honey in the brood-combs which, if stored in the supers, would have made a very creditable surplus heather harvest.

Assuming that thirty-seven days are required for the production of a worker-bee which will in ordinary course be ready to begin work in the fields, and that the heather comes into bloom on August 12, the eggs laid by a queen after July 15 will not produce workers that can participate in the heather harvest. Therefore, after the 15th (approximately) nothing more can be done by the bee-keeper in the production of bees for the heather harvest, and his plans should be laid to intelligently anticipate the reduction of the brood-nest, which takes place naturally at that time of the year and onwards to the period of hibernation. The "Divisible" hive enables the bee-keeper to *compel* the bees to store honey where he wants it, *i.e.*, in the supers, which is a decided advance on our previous methods of harvesting this late flow in deep brood-frames.

To readers of the BRITISH BEE JOURNAL the reduction here indicated is not new, as it will be remembered that Mr. Rymer adopted similar methods with a duplicated "W.B.C." hive, *i.e.*, reduced from twenty to ten frames at the commencement of the heather harvest, but the "Divisible" hive is handier so far as the heather harvest is concerned.

In conclusion I would suggest that the B.B.K.A. should give more attention to North British bee-keeping, and particularly to the problem of the heather harvest. And I would ask, Is it not possible to hold a conference every year, say in Edinburgh, to discuss North-country bee-keeping? I have no doubt if such a conference could be arranged, say in Edinburgh or Newcastle, at the end of next year, the Northumberland and Durham B.K.A. would arrange for one or more of its members to attend and give a demonstration of the new hive and to formulate a helpful discussion on the heather harvest. Also, is it not possible or feasible for the B.B.K.A. to arrange next year to supply eggs of good breeders to bee-keepers for queen-raising, as is done in Switzerland, or, if not, perhaps some of our queen-raisers might find it worth while to do so?—J. N. KIDD, Stocksfield, Northumberland, November 25.

CONFLICTING IMPRESSIONS.

VARIABLENESS IN BEE-KEEPING.

[7309.] When reading the communications in the B.B.J. from various correspondents located in different parts of the United Kingdom, I am often puzzled by the conflicting impressions conveyed therein, which make things appear what they

are not, and give rise to erroneous conclusions, generally due, I suppose, to a want of fuller explanation. For instance, location seems to have far more influence on the yield of honey and behaviour of the bees than is usually attributed to it.

In reading the letter of your correspondent "D. M. M." (7290, page 471) headed "Honey is Money," the impression conveyed is that bees will pay, on an average, cent. per cent. if given the necessary care and attention. Nothing is said as to location, which in itself will spell success or failure, irrespective of attention. To illustrate this point, let an expert give equal care and attention to two apiaries, one in a good position, the other in an average or poor one; could anyone expect cent. per cent. from both alike? Again, see how location influences the behaviour of the bees. A district with a long-continued but slow inflow of honey will greatly conduce to breeding, and consequently the energies of the stock would go in that direction, thus causing incessant swarming; whereas, when the inflow is rapid and sudden, although it may be short, but frequent, the bees' energies are drawn from brood-rearing to surplus-storing, and consequently better returns are obtained.

These facts are brought forcibly home to me when I read in the B.B.J. that many bee-keepers have secured averages of between 100 lb. and 200 lb. per colony, while for myself, with hives overflowing with bees at the right time, worked on various plans, I have to be content with an average of about 30 lb. per hive. On one occasion only I secured 70 lb. from one stock, and that in my novitiate days. I am convinced that nothing else will account for this diversity except location.

My own opinion has always been that the hills contained the pick of positions for bee-keeping, whereas Mr. Woodley (*vide* page 484) is best content in the valley. It appears to me that, irrespective of pasturage, bees could cover a wider area of flight by the rises and falls of the hills, which would give a wider field of work than in valleys or on table-lands. I also notice Mr. Woodley's reference to my letter on out-apiaries (page 463). Such practical advice is of much value, but I wonder what our Editors' impression is of Mr. Woodley's last paragraph in recommending a "Combination" hive in preference to any other. The "W. B. C." hive has always held first place as a standard hive, yet here is an authority of practical experience placing a "Combination" first. Surely he must have good reasons for this?

From the discussions in your pages on large *versus* small hives, along with recommendations and trials of various makes, &c., I come to the conclusion that hives to suit the district or condition of honey-flow is the principle which should be worked upon. Say, for instance, you happen to have your bees where the honey-flow does not commence in earnest till mid-June, but a sufficient supply to develop the brood-nest has continued since the dandelion flow. It nearly always happens that the brood-nest is overflowing before it is any use to put on supers. What could be done in these cases with a "W. B. C." or any limited brood-chamber hive except rob the stock to help the weak, or double it? I think this is where the "Combination" hive would score, in continuing to develop the brood-nest and attain the queen's limit, and be ready to put on supers when the flow increased. By the foregoing any intelligent person can discern how easily truthful statements made from different parts of the country appear conflicting and opposed to each other. The same may be said with regard to the quality of honey gathered. All bee-keepers should know what a variety of different flavours and varying densities and colours are gathered in the United Kingdom. What can account for this except location? Nectar flows into the flowers plentifully only when conditions are favourable, viz., when the temperature and moisture co-operate, and cold clay soil would hinder the flow in cold, wet seasons; but the flow would hold out longer in hot, dry seasons, while the opposite would be the case on warm sandy soil. Many such instances as the above conflicting impressions appear from time to time in the B.B.J., but most are capable of being explained away, allowing for a few exaggerations and jokes, which, if not instructive, make pleasant reading. —G. W. Smith, Swindon, December 4.

[It would have been more satisfactory if our correspondent had followed Mr. Woodley's example when referring to the "Combination" hive, without comparing it with any other hive by name. But when Mr. Smith disparagingly asks what could be done with a "W. B. C." hive "in districts where the honey-flow does not commence in earnest till mid-June," we reply by informing him that the last-named hive was thought out by its designer, and achieved its first successes, in Cheshire, where the main honey-flow always begins in mid-June. Moreover, we had the "Combination" hive in use in our apiary at the same time. This was over twenty years ago, and while the "Combination" has steadily been falling out of use, the other appears to be increasing in popularity as time goes on. Our friend Mr. Woodley, along with our friend Mr. Smith, has a perfect right to state his preferences in the choice of hives for use, and to state those preferences in our pages, and we should be the last to object, but

when editorial opinion is pointedly asked for, as in the above case, we have no option. This must be our excuse for referring to the "W. B. C." hive at all.—EDS.]

TEMPORARY OUT-APIARIES.

[7310.] I notice from a query in last week's B.B.J. (3848, page 490) that "Amateur, Worcestershire," is seeking advice on the question of out-apiaries for the benefit of B.B.J. readers. Generally I keep my twelve hives in one apiary until the middle of June. Then I take them on a light lorry to a place about twelve miles away to where there is a good lot of white clover, and leave them for about six weeks. After which I bring them back and prepare them for the heather, from which I get a good lot of the best of honey in supers. The bees get very strong, with plenty of stores before sending them to the heather. This method of working has proved a success with me. If you think it would be any benefit to readers of the B.B.J. who are able and willing to remove their hives to better pastures, I would give my mode of ventilating and packing, &c.—J. R., Starbeck, December 7.

[Having mentioned in the above communication what you do, it should be equally interesting to know how it is done. We shall therefore be glad to have your method of packing for transit.—EDS.]

BEE-STORY BY RUDYARD KIPLING.

[7311.] It is so seldom that we find a well-known novelist writing a story around bees, and with real knowledge of his subject, that I feel I must draw the attention of brother bee-keepers to the Christmas number of the *Windsor Magazine*, which contains a charming little story by Rudyard Kipling, entitled "The Mother Hive." They will find it well worth perusal.—CRYP, Sunderland, December 5.

[Without having read the story referred to, we can suppose it will be well worth perusal. By the way, it may be of interest to state that Mr. Rudyard Kipling is a reader of the B.B.J.—EDS.]

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

Packing Comb Honey (page 423).—It is most important that packages should be kept "This side up with care" during transit. The provision of adequate handles goes a long way to secure this position. Even the smallest cases, particularly for comb honey, should have at least one proper handle. For a dozen sections I prefer my own case for the purpose. This takes two tiers of six, and is almost cubical. It opens not at the top, but at the end, which is perhaps its most important feature. The handle is thus attached to a permanently strong top of the case.

The Preservative Instinct (page 427).—It is unlikely that a stock of bees, which has had this instinct developed from time immemorial, should lose it in a few months. Every natural living thing today is the descendant of an unbroken line of its exponents. What is more likely to be the explanation of this incident is that the bees were old, and therefore not best fitted for the rearing of brood. Normally, after hibernation, brood-rearing is attacked gradually, and young bees are produced to cope with its extension. The case mentioned by "Theta" was abnormal in this sense, and the hive probably was queenless for some time before winter, and the introduced queen exceeded the powers of the volunteer nurses. For under such circumstances much of the new brood would be of similar age, and though old bees might at first be able to cope with it, yet as its appetite increased and their numbers diminished the relation between demand and supply might easily call for drastic remedy. Also a good supply of brood-food cannot be produced upon short notice, such as the introduction of brood, so that the best-intentioned bees might quite conceivably fail to feed starving brood. So in the case mentioned very old bees might make half-hearted attempts at brood-rearing, and the tax upon their powers might discourage them, until the stock ultimately perished. Of course, this is only an attempt at explanation; but, whatever the full truth, it is more likely to be in line with the normal than to be due to the loss of an instinct which is a vital inheritance of the ages.

Hope for All (page 436).—"D. M. M.'s" list of ailments would seem to include "all the ills that flesh is heir to" since the day when Pandora's box swarmed and the winged blessings left Hope behind. It is quite clear that no one need abandon hope again, and that honey is the hope of the sufferer. Honey, indeed, must be ranked as a potent—I had almost said patent—medicine if it be such a cure-all. This, then, is why Hope is the possession of all bee-keepers. Recently I asked a local man why he did not take a bee-paper. "Oh," he said, "they contain '*Hoping for a better season next year.*'" Well, why shouldn't we hope? I hope, if I may still do so, that his statement is not the whole of the truth. Anyhow, let us go on hoping, particularly at seasons of discouragement, remembering Gerald Massey's lines:

Hope on, hope ever! After darkest night
Comes full of loving light the laughing morning.

Parthenogenesis (page 436).—I am not sure whether Dr. Kuckuck's letter is an

answer to my difficulties stated on page 396; but, if so, it appears to leave some of them unsolved. If not, the good Doctor must pardon me for further interrogation. He says that weak queens do not produce workers. But is this true? The balance of sex potentiality must be, according to his theory, very easily altered, so that even a slight weakness might ensure drone-production. Now, I have seen poor and undersized queens struggling to make a brood-nest at all, and yet producing workers. Again, I have seen old and jaded queens clinging to life and tottering on the comb, and producing workers, and occasionally, perhaps involuntarily, drones. If the latter be the result of weakened female cells, how shall we account for the former? Are some only of the germs weakened? What, then, is to be the test of weakness? If the fact of drone-production, it becomes merely circular argument. Thus, a weak queen produces drones, and we know her to be weak by her doing so. That is taking the theory for granted to prove it. Again, we must suppose that the queen is quite conscious of the predetermined sex of the egg. And, according to Dr. Kuckuck's theory, she must know not only, as believed, whether the egg has been subjected to some process, but, apart from this, which of the germs predominates! Our mind can hardly conceive of this possibility. And if it be true, it must also be true that a queen, laying faultily, must be aware of her error ere it is made, which does not, at first reflection, appear to be the case.

Lard-bucket (page 445).—Who that has done pioneer work but has met such cases—one cannot call them hives—as that so graphically described by Mr. Avery? The wonder is that bees survive such care (*sic*), yet they appear to do so, for a time at any rate. In this case the bees would no doubt "kick the bucket" sooner or later, as this must be the kind of "care" that killed the cat! On a recent driving expedition we encountered an old wicker basket in which a vagrant swarm had been hived (*sic*)! The almost detached bottom hung with festoons of old rope down into the inverted basket, which had, by the way, been used previously for carrying manure! The combs were thus threaded through and through with rubbish, and although so well "tied," the wretched structure, in spite of its protection of guano bags, was so fragile that ordinary driving was out of the question, and the honey had to be removed and dished piecemeal. Which was done without mess or mishap, to the pleased astonishment of the owner.

Uniting Bees (page 446).—Recently I desired to unite two four-frame lots for winter. To the best of my judgment, there was nothing to choose between the queens. But, as the sequel will show, the bees knew more about the matter. So I placed both lots in one hive on the centre of the double stand, giving entrance to each at its own extreme side of the alighting-board. Each lot had been trained to use such an entrance before union. The two stocks were divided by a bee-way dummy, and within two days from the operation the bees were practically united, automatically and without loss, as sometimes occurs in a "Wells" hive, with queens of different age. We hear sometimes of serious mishaps in this operation, but friend Simmins is quite right in saying, as I have no doubt his critics will find to be the case, that uniting is a simple job in the hands of the really expert, and does not require a lot of elaborate precaution. The novice will, however, do well to be cautious.

Out-apiaries (page 448).—I do not see how rent and carriage can be ignored, as a balance-sheet may show carriage to amount to 10 per cent. of the turnover, and rent at, say, 1s. per hive per annum may easily average another 2½ per cent. It would be interesting to have the exact figures of experience, but I, for one, find that these are items which cannot be ignored.

A Swell Affair (page 453).—"In ten minutes the sharpest eyes cannot detect the part stung." Holy Syrians! Poor "D. M. M."! I myself have had stings swell up quickly, but nothing to this! I am almost ashamed to mention my little trifles in the same breath! I ask your pardon, "D. M. M."

WEATHER REPORT.

WESTBOURNE, SUSSEX.
November, 1908.

Rainfall, 1·60 in.	Minimum on grass, 22° on 10th and 11th.
Heaviest fall, ·60 in. on 21st.	
Rain fell on 12 days.	Frosty nights, 6.
Below average, 1·55in.	Mean maximum, 52·3.
Sunshine, 89·3 hours.	Mean minimum, 39·4.
Brightest day, 9th, 6·4 hours.	Mean temperature, 45·8.
Sunless days, 2.	Above average, 3.
Above average, 22·7 hours.	Maximum barometer, 30·337 on 30th.
Maximum temperature, 60° on 1st.	Minimum barometer, 29·562 on 22nd.
Minimum temperature, 29° on 10th.	

L. B. BIRKETT.

NOVEMBER RAINFALL.

Total fall, 2.41 in.

Heaviest fall in 24 hours, .72 in. on the 12th.

Rain fell on 15 days.

W. HEAD, Brilley, Herefordshire.

Queries and Replies.

[3850.] *Preserving Surplus Queens when Uniting.*—1. With reference to the methods recently discussed in the B.B.J. by Mr. Simmins and Mr. Silver for uniting bees by first removing the queens, would you be good enough to explain how the queens should be treated during the time of separation? Can they exist three or four hours without food? 2. Would you also kindly tell me if it is advisable, when working for sections only, to double the brood-box, as recommended in the "Guide Book," page 61, for extracted honey? Name, &c., sent for reference.—BEGINNER, Bagley Woods, Oxford. December 7.

REPLY.—1. The usual plan of preserving queens for future use after removal from their own hives is to put them into a combed section, or, failing this, on a small piece of comb, into the cells of which a little honey or syrup is poured. Queens so preserved should be accompanied by two or three dozen of their own bees, by whom the mother-bee will be fed and kept warm. 2. No. The plan known as "doubling" is more adapted for use when working for extracted honey than for sections.

[3851.] *Feeding Bees in Skep Short of Stores.* Besides my own small apiary of four stocks of bees in frame-hives I have in my charge a small colony with insufficient stores in a round-topped straw skep, and another colony hived on shallow-frames in a super temporarily in use as a body-box, and beg to ask:—1. How should I feed the bees of the skep during the winter? 2. What had I better do with the bees on shallow-frames next year? I do not mind (if necessary) uniting the above colonies, though I do not want to absorb them into my own apiary. —J. CRSY, St. Helier, December 4.

REPLY.—1. If the skep has not already got a feed-hole at top, you will need to cut one in the straw large enough to allow of inserting a 1-lb. honey-jar. Give the bees a jar of good thick syrup, slightly warm, on the first fine day when the bees are flying well, and when the jar is empty substitute a cake of soft bee-candy forced well into the feed-hole, and carefully covered up on the outside, first with paper, then with warm material that can be fastened down to the straw with 2-in. wire nails. Renew as required. 2. When the bees are so strong in numbers as to cover the shallow-frames well, say at end of April, set the box above the top-bars of an ordinary-sized body-box, and let the bees transfer themselves below. The shallow-frames may be left on as a super for extracting.

[3852.] *Remuneration for Managing Bees.*—I have been offered the management of two hives of bees belonging to a lady in the neighbourhood, but neither she nor I have any idea what is usually charged. She suggests 3d. a lb. for the first 100 lb., less after, besides expenses. I should be very grateful if any of your contributors who manage other people's bees would give me their opinion. I am to have the hives in my own apiary; but the bees in them are not at all strong. I send name for reference, and sign—B., Lewes, December 7.

REPLY.—There is no "usual charge" for managing bees that we have ever heard of under similar conditions to those named, but if the owner of the hives proposes to allow you 3d. per lb. for all the honey gathered, in addition to paying all expenses, she does not lack in generosity, but rather miscalculates the weight of honey the two stocks—now weak—are likely to gather next year. You would be more likely to conclude a satisfactory deal by calculating your share of the profits after the season's work is over, each party being willing to abide by this condition.

Notices to Correspondents.

J. GRAY (Long Eaton).—*Uncapping Combs.* —The usual course we adopt with regard to new inventions had better be followed in the case you refer to. Under this rule the manufacturer sends us an illustration with full description of the appliance, and we will be very pleased to insert it in an early issue next year under the heading "Novelties for 1909."

G. FOSTER (Hants).—*The Spread of Bee-keeping.*—We fear our correspondent has had a bad season with his bees, and hope that next year will bring him better fortune. If, as stated, he is interested in hearing of "a humble cottager who realised £80 for his ton of honey this year," it should not reflect any discredit on the "cottager" because another bee-man sold his produce at 45s. per cwt. There are "ups and downs" with bees as with other things, and we must accept good or bad fortune as it comes in most pursuits. However, we hope our friend's turn will come next autumn and find him in better spirits consequent on a good crop. He is located in a good bee-county, and may easily be among the fortunate ones. Meantime, we should much like to see the pamphlet issued by the well-meaning bee-keepers' society which advocates bee-keeping "for the creation of moral giants."

*** *Several important letters, &c., are in type, and will appear next week.*

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FOR SALE, Devonshire Honey, in Sections, light and in splendid condition.—RICHARDS, Florence Villa, Ilfracombe. m 30

FOR IMMEDIATE SALE, advertiser going away, a large collection of new and second-hand Bee-keeping Appliances, 6 healthy Stocks of Bees, in Standard Hives, with warranted 1908 Queens. Full particulars free on application.—A. W. SAUNDERS, Bee Appliance Agent, New-road, Henley-in-Arden, Warwickshire. m 31

HONEY.—6 doz. lb. jars, 36s., on rail.—G. SHARP, Hauxton, Cambs. m 32

SECTIONS WANTED. State price. Must be light and new.—THE HONIELADE CO., 23, Moorfields, E.C. m 33

GOOD SECTIONS WANTED.—J. SILVER, Croydon-grove, Croydon. m 34

SEVERAL CWT. OF LIGHT COLOUR HONEY FOR SALE, in 48 lb. lots, 8d. per lb., carriage paid. Sample 3d.—E. BLACKMORE, Halthaies, Bradninch, Devon. m 35

WANTED, Observatory Hive, good condition, 3-frame or more.—BILL, Havering Well, Romford.

WANTED, Negatives, ½ Plate or under, of Apiaries, Manipulations, Swarms, or anything interesting with Bees.—Price, &c., to BEVAN, 31, Sheldon-street, Croydon. m 36

2 CWT. LIGHT HAMPSHIRE HONEY FOR SALE.—Offers to FOSTER, Chilbolton, Hants. m 37

PURE YORKSHIRE TERRIER BITCH PUP, 3 months, make pretty Christmas present, sell 20s., or exchange pure English light extracted Honey to value. Deposit.—T. EVANS, 15, Sterland-street, Brampton, Chesterfield. m 39

4 28-lb. TINS OF GRANULATED CLOVER HONEY, 6d. lb.; also 5 dozen 1-lb. Screw-cap Jars of above, 2s. 6d. dozen; samples, 3d.—DE MAINE, King's Stagg, Sturminster Newton, Dorset. m 40

HAVING RECEIVED NOTICE TO REMOVE MY HIVES IMMEDIATELY FROM GARDEN, I have 12 strong healthy Stocks, 1908 Queen, full of Stores, to dispose of, from 18s. upwards; some of the Hives are new this season, and cost me 24s. Would not have sold if I could have found a place to keep them.—BOWMAN, Expert, Workington. m 41

3 STOCKS BEES, on 10 Standard Frames each, 2 Crates Shallow Combs each, one good single walled, 15s.; 2 good double walled, 22s. 6d. each; full stores for winter; guaranteed healthy. Deposit.—MRS. WILLIAMS, Rainworth, Blidworth, Notts. m 42

WANTED, Bound Volumes of "Bee Journal" for 1892, 1903, 1904, 1905.—Price to HERROD, Apiary, Luton.

PURE ENGLISH HONEY, from White Clover, in 1 lb. Screw-capped Bottles, 8s. 6d. per dozen, carriage paid.—T. WELLS, 2, Claudius-road, Colchester. m 25

CHEAP APPLIANCES.—Send for list of soiled Extractors, Smokers, &c.—MEADOWS, Syston. m 24

LIGHT HAMPSHIRE EXTRACTED HONEY, in 28 lb. tins, 56s. cwt., on rail; sample 3d.—H., c/o BEE JOURNAL. m 16

NARCISSI BULBS, mixed, 3s. 6d. per 1,000, package free.—S. HARBORNE, St. Buryan, Cornwall. m 27

Special Prepaid Advertisements.—*Continued.*

50 SWARMS WANTED IN MAY AND EARLY JUNE, will take promises of two and upwards, Wales and West country preferred. State price, or would exchange new Bee Appliances and Foundation.—P., c/o BEE JOURNAL. m 20

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FOR SALE, "British Bee Journal," from commencement, May, 1873, to December, 1883, bound cloth, £2.—D. FAIRWEATHER, Muirside-of-Kinnell, Friockheim, Arbroath. m 28

SELL FOLLOWING INCUBATORS: 200, 100, Cyphers.—HERROD, Apiary, Luton. l 59

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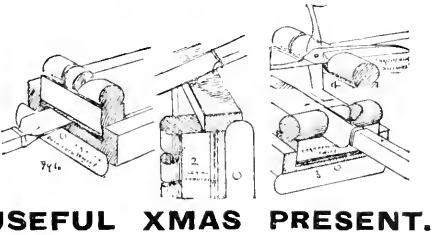

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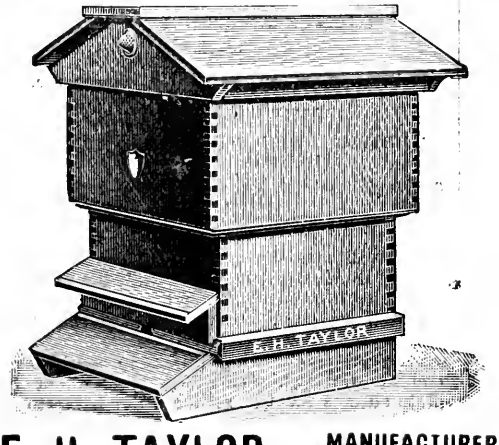

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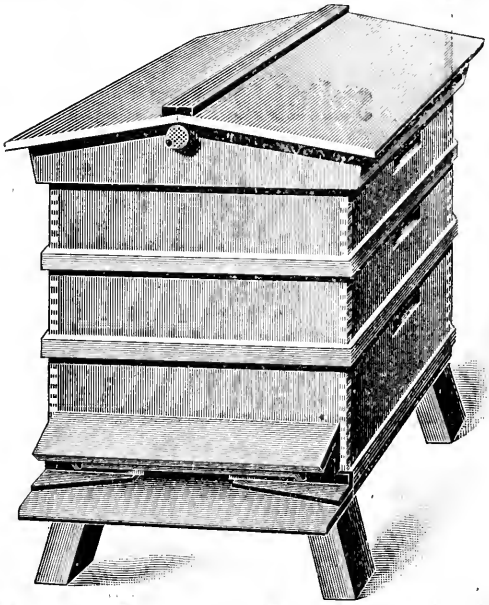

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Editorial, Notices, &c.

REVIEW.

Ueber die unter dem Namen "Faulbrut" bekanten seuchenhaften Bruterkrankungen der Honigbiene. By Dr. Albert Maassen (Reports of the Imperial Biological Institute, Dahlem. Published by Paul Parey, Berlin; 1.10 mark (1s. 2d.). —This work is the result of five years of science combined with practice. We have on several occasions kept our readers informed regarding the important work respecting foul brood hitherto accomplished by Dr. Maassen, and in his latest work we have not only a summary of his investigations into the bacteriology of foul brood, but also the results of a long series of practical experiments with the disease. Dr. Maassen gives the history of the disease from the earliest times, traces its existence down to the days of Aristotle, and also shows its prevalence in Germany from quite an early period. The causes that lead to bacterial diseases are discussed, and the reader is made acquainted with the three microbes found in the different forms of the disease. These, as we already know, are *Bacillus alvei*, *Bacillus Brandenburgiensis* (syn. *B. Burri*), and *Streptococcus apis*, which can be easily recognised from the illustrations. The different phases of the disease are also minutely described, so that the bee-keeper can easily distinguish them, and, lastly, the precautions to be observed, the methods of ridding an apiary of the pest, and the most effective systems of disinfection are detailed. Dr. Maassen attributes the spread of the disease to indiscriminately mixing diseased and healthy colonies, interchanging combs, and promiscuously uniting bees. If bee-keepers were all careful there would be little harm in this, but many cannot recognise the incipient form of the disease, hence the danger, as they only realise that their apiaries are diseased when it has obtained a firm footing. The illustrations are very fine, and for the first time we have enlarged coloured figures of healthy and diseased larvæ shown in the open cells, and a section showing dying larvæ after the cells are sealed over, giving their appearance when attacked by the two different bacilli. There are also figures showing the combs containing foul brood in spring and also in summer, illustrations of the different bacteria, as well as the appearance of their cultures. It is a work of great value to European bee-keepers, and Dr. Maassen deserves their thanks for the service he has rendered to the industry by his persevering investigations.

SURMISABLE (?),

It is always pleasant to feel that people can repose confidence in one personally, and it is not less pleasant for the Editors of a journal to know that friendship and confidence exist not only between themselves and their supporters, but also among the subscribers as a class. It was therefore with a smile of satisfaction, combined with amusement, that we received the following notice offered for insertion in our advertisement columns:—

> Bee-master (Scotch), prepossessing and in his prime, desires to correspond with an amiable and good-looking lady bee-keeper with moderate means. Object, surmisable.—Replies to "Scot," B.B.J. Office.

Now, as we have no desire to deprive existing matrimonial agencies of their legitimate business, we felt it impossible to accede to the request of our correspondent, and returned his postal order. However, as our contemporary across the Irish Sea has inserted the notice among its paid advertisements, we think it only right that our subscribers should also have this chance of a lifetime! We are the more moved to do this for the reason that the advertisement in our contemporary has apparently resulted in nothing—maybe it does not circulate among suitable people, for we are convinced that there are numerous eligible young persons in the Emerald Isle.

We feel sure, from his description of himself and from his taste, as disclosed in the requirements set forth, that our Scotch friend deserves success in his effort to provide some attractive young lady of moderate means with a home, and if any letters are sent to us on the subject we shall be pleased to forward them (without prejudice) to their destination, providing the replies are not so numerous as to seriously interfere with our office work or with the labours of the Post Office, both at this time of the year sufficiently arduous already.

BEES' STINGS AND RHEUMATISM.

By E. W. Ainley Walker, D.M.Oxon.*

(*Continued from page* 493.)

Artificial Preparations of Bee-Poison in Rheumatism.

53. Alumni Report of the Philadelphia College of Pharmacy, September, 1904.—A Thriving Industry.—Since the discovery, a few months ago, that formic acid from bees' stingers is a sure cure for rheumatism and lumbago, the demand for the stingers has leaped far in advance

* Reprinted from the *British Medical Journal.*

of the supply. . . . Experiments made by the H. K. Mulford Laboratories, near Glenolden, proved the efficiency of the bees' stingers as a cure for rheumatism and lumbago.

54. *Lancet*, 1907, i, p. 1806: "Tattoo" writes describing an apparatus shown him some eight years ago by the mate of a cargo-boat. It was armed with concentric rings of needles, which were made to puncture the skin by the action of a spring. After the skin had thus been scarified, a viscous solution (said to have been prepared from the stings of bees by a German chemist) was rubbed in, and was stated to produce a smart inflammatory reaction. The mate stated that his father had cured himself of very severe and obstinate "rheumatism of the spine" by the use of this apparatus.

55. H. H. G. (California) writes: The sting of the honey-bee (*Apis mellifica*) is used in medicine (? homœopathic) in certain synovial affections, especially where there is an œdematous condition and the knee is swollen, shiny, sore, and stinging pain accompanies. Crushed ants . . . is another very useful remedy in pathological conditions of the joints, such as rheumatism. I have used the latter in homœopathic doses of the sixth potency (?) and have obtained some remarkable results.

56. B. M. (France) refers to the homœopathic use of *Apis mellifica*, and says "throat troubles respond like magic to this remedy."

The statements assembled in the foregoing columns may fairly be regarded as at least establishing a presumption that bee-poison can exert some striking influence in rheumatic subjects, and one which deserves an exact investigation. Nor is the action merely that of a counter irritant, as might at first be supposed, since many of the alleged cures are stated to have exhibited a more or less abiding character.

Here important information may be gained from the results of Dr. Terc, who has, in fact, made an extended series of clinical observations on the subject, and informs the writer that he has employed the bee-sting cure since 1879. He has now treated over 700 cases of rheumatism and rheumatoid arthritis by this method.

Dr. Terc's first paper was published in 1888 in the *Wiener medizinische Presse*, No. 35, but his work has unfortunately failed to receive favourable attention in his own country, and he has published little since that date, except a lecture (Das Bienergift in der Heilkunde) in the *Steirischen Bienenvater* of February 11, 1904, and a letter in the same journal for May 1, 1907 (printed at Graz). Indeed, in writing to me in September, 1907, he says, after referring to the very scanty consideration shown towards his work by his colleagues in the profession, "The lecture which I gave in Vienna before the K. K. Gesellschaft der Aerzte on May 15, 1903, on the results of my treatment was not even noticed in the official journal of the society."

Nevertheless, Dr. Terc's results are extremely interesting, and his conclusions in the first paper are supported by a detailed account of twenty-three out of the 173 cases which he had then treated. The following is a brief account of Dr. Terc's observations and results:

If a normal individual be stung by a bee, there appears immediately around the point of puncture a rapidly-formed wheal; but if the sting has been withdrawn from the wound, both the wheal and the accompanying pain soon disappear—within two or three hours at most. Besides this strictly local *primary* reaction to the sting, there occurs also *secondarily* an œdematous swelling of the skin around the wound, spreading outwards from the point of puncture, and accompanied by a variable amount of burning, itching, and irritation. The duration of this secondary reaction varies, but is in general from three to five days.

If the individual receives sufficiently numerous and repeated stings, an immunity is developed, which consists in this—that the secondary swelling gradually becomes less marked after each sting, and eventually entirely fails to appear, only the immediate (*primary*) effect occurring, so that within two or three hours of even a severe stinging all visible reaction has disappeared.

The immunity thus obtained persists for perhaps six months, gradually diminishing, and finally disappearing. If it be repeatedly restored by renewed stinging it acquires a more persistent character; and, after frequent and long-continued exposure to bees' stings—as, for example, among bee-keepers, who take no special precautions to avoid being stung—the immunity may at length become fixed, and persist for years, or even throughout life.

If, on the other hand, a *rheumatic subject* receives a bee-sting, the *secondary* (itching and irritable) swelling entirely fails to appear, and may only be induced after the application of two, three, ten, or even fifty or more stings, according to the intensity, the type, and the duration of the rheumatism in question. This stage is spoken of by Terc as the stage of *negative reaction*.

When the secondary swelling first appears it is slight and of brief duration, but as the stings are continued it increases in extent and duration with each fresh sting until it reaches the size and persistence (three to five days) usual in

normal persons. This is the stage of *positive reaction.*

By continuing the treatment the third stage, or stage of actual *immunity*, is reached, when, however many stings be applied, no secondary swelling can be evoked.

With the appearance of the second stage there is always a marked improvement in the symptoms, and the development of immunity to the stings (third stage) is accompanied by a complete cure of the rheumatism, the cure enduring as long as the immunity remains.

In slight cases cure may result so rapidly (especially if the treatment has been begun with a number of stings at once) that the various stages cannot be differentiated. Thus, among Terc's cases I find one (No. 4) where the immediate application of eight stings resulted in cure and the return of the patient to work on the following day. (Compare with this many of the alleged cures recorded above.) On the other hand, in severe and very chronic cases treatment has to be continued, it may be, for many months before immunity and the accompanying cure are attained. And in the worst cases many hundreds of stings may be required. Two of these cases of which I have an account are of special interest, because in each case there was a history of some two and a half years' duration, and the patients were completely crippled when treatment was begun. Both were absolutely cured and restored to their normal occupations, and have remained free from any sign of rheumatism since. The first, G. H. (now a high school director), No. 5 in Dr. Terc's first paper, was treated as long ago as 1879-1880; the second, J. G., treated from 1902 to 1905, and able to go about her work from the end of the first six months of treatment (previously bedridden), is recorded in the papers in the *Steirischen Bienenvater*, and in a private letter of September, 1907, received from Dr. Terc. Dr. Terc has now treated over 700 cases of rheumatism and rheumatoid arthritis, and writes: "The cure of true rheumatism, whether simple or complicated . . . depends only on the perseverance and intelligence of the patient. Every case is curable." The foregoing observations and statements of Dr. Terc, if accepted, at once suggest an explanation both of the cures and of the failures to cure by the bee-sting treatment, which are collected and set forth in the earlier part of the present paper.

The treatment is naturally painful, and a number of Terc's patients appear to have been satisfied with a relief of symptoms, continuing the treatment only when a relapse occurred. But, fortunately, as Dr. Terc affirms, the stings are less painful in rheumatic subjects than in normal persons. The use of cocaine or other local anæsthetic does not seem to have been attempted as an amelioration of the treatment, but might no doubt be resorted to with advantage.

(*Conclusion next week.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[7312.] Mild, open weather still continues, and bees have been on the wing several days during the past week in such numbers that from outside appearances I should consider that stocks are strong in population. The rain will have shown where any fault existed in the roofs of hives, and these weak places should be covered with some waterproof material. My own preference is for thin sheet zinc, which makes a permanent job of any leaky roof, and with one or two coats of white paint it does not absorb much more heat in summer than a painted wood roof.

Packing Honey.—I again return to this subject, as "A. H." (page 486) has given his method, which differs from mine. I should think that "a box within a box" would add considerably to the expense of packing, and would mean that his cases are "returnable or charged for." I have never charged for a packing-box myself for either honey or bees, and in this way my customers have no bother or expense in returning "empties." Possibly my system is one of the reasons why I never have any trouble in disposing of either bees or honey. In America sections are packed for rail in what are called "drip cases"—*i.e.*, cases with slats across to stand the sections on. A sheet of waxed paper is laid in each box before the sections are placed in position, and several of these boxes are packed in a larger case for dispatch. I contend that glazed sections travel better than unglazed ones. The glazing strengthens them, and, what is of greater moment to the honey-producer, it preserves the honey during its many handlings between the producer and consumer.

Do England and Italy produce 25,000 tons of honey each or between the two countries, I wonder?

Out-apiaries.—When I said, on page 484, that with my present knowledge I should choose a valley as preferable to a hill as a location for a successful apiary, I did not say my own bees were in a valley. I am on one of the highest points in Berkshire, but, being conversant with the neighbourhood and the "takes" of honey, I have found that bees located in valleys as a rule gather more honey than those on high, exposed situations. Yes, I agree with Mr. Crawshaw that rent and carriage should be shown in balance-sheet. The rent for my out-apiary is 10s. per year, with room for a hundred hives. The carriage does not run to much: I get our local carrier to bring home thirty to forty racks of sections at a time just as they come off the hives. I may add in most seasons my sections are all filled and sealed to the outside, so that every rack counts twenty-one sections, of course towards the end of the season.—W. WOODLEY, Beedon, Newbury.

MANAGEMENT AT THE HEATHER.

[7313.] Readers of the B.B.J. are indebted to Mr. Ellis for the many helpful and suggestive letters he communicates, and his last, under the above heading, in your issue of November 26 (page 475) is by no means the least interesting. Unfortunately, Mr. Ellis, in discussing divisible brood-chambers, does not say what is the size of the frame he is using. When first rapidly glancing through his letter I concluded that he referred to the English standard shallow-frame,* but one or two statements he makes cause me to wonder if I am in error.

Mr. Ellis suggests that if one uses twenty shallow-frames as a brood-nest, it will prove bigger than a poor queen can occupy during the clover harvest, and much honey is consequently stored in the brood-nest which ought to be in the supers. From practical experience I find that this can be obviated by transferring the positions of the upper and lower halves of the brood-chamber at the beginning of the honey-flow and at the time of supering. In this way the brood, which is right along the top of what was previously the lower brood division, by this manipulation is brought immediately under the super. The honey, which was along the top of the combs of the previously upper division, is now right in the centre of the brood-nest—brood above and brood below—and must consequently be removed to the only possible place—the super.

If the clover-flow is a long one and the queen not very active, the brood-nest can again be inverted, and again brood brought close up to the supers. Experience teaches us that bees object strongly to honey being stored between the hive entrance and their brood, at any rate until late in the season. These manipulations are very easy in any good hive in which, as in the "W. B. C.," the parts are interchangeable and the entrance is let into the bottom-board.

Mr. Ellis's plan of removing one division of the brood-nest—presumably the upper one—to form a nucleus to fortify the parent hive at the time of going to the moors is to my mind an excellent one. But I cannot think that he dares to contract his brood-nest to ten English shallow-frames at the beginning of the clover-harvest, and these full of brood. The result in this locality would inevitably be swarming.

Mr. Ellis's plan succeeds with us if at the time of supering for clover and removal of one-half of the brood-nest—which will contain only very young bees and potential bees of little help to that harvest—we place a division of shallow-frames with foundation between the brood-nest and entrance. Swarming is in this way almost always prevented, the work in the supers not interfered with, and a much stronger force of bees will be in being for the later harvest. Mr. Ellis seems to object to his supered colony raising too much brood at the time of clover harvest. Without causing swarming, it is difficult to see how it can be restricted unless the "Doolittle" plan of caging the queen for the first ten days of the flow, and cutting out any queen-cells that may be produced, is resorted to. But this entails more fussing than the average British bee-keeper desires.

Doolittle contends that the queen, on being liberated, starts with new zest and causes the bees to empty the brood-cells which have been filled with honey during the time of her confinement. In one other point I find our locality differing from that of Mr. Ellis, who says that even a single shallow brood-chamber at the moors becomes blocked with masses of heather-honey if the queen is exhausted.

The moors I am about to refer to are 900 ft. above sea-level, some fifteen miles inland from the North-east coast.

In August, 1907, we had terribly cold weather for the first three weeks, so much so that, on examining my own and brother bee-keepers' colonies about August 21 with a view to further contraction, I found not a single colony with eggs or uncapped brood, and perhaps one in four had a little sealed brood in every kind of hive. Yet when they returned from the

(*Continued on page* 506.)

* [There is no "English standard shallow-frame." No doubt Mr. Ellis refers to the 5½in. deep frame in general use in this country.—EDS.]

DEATH OF MR. E. W. ALEXANDER.

Our readers, many of whom have profited by his useful labours on behalf of the craft, will learn with regret of the death of Mr. E. W. Alexander, the well-known American apiarist, at his residence, Delanson, New York State, on September 19, aged sixty-three years, under very pathetic circumstances. Mr. Alexander had not long taken possession of a new home he had purchased when he was made aware by his medical attendant that an illness from which he was suffering had taken a fatal turn, and that his life could not be prolonged beyond a few months. He bore the news cheerfully, and made the most of his time while able to be about, taking an interest in his bees till the last, and passed peacefully away, surrounded by his wife and family, on the date mentioned.

THE LATE E. W. ALEXANDER.

Bee-keepers who are interested in the higher branches of the craft are indebted to Mr. Alexander for some novel and valuable ideas connected with bee-keeping, notably the "Alexander" method of keeping a great number of queens in one hive for a long period, ready for sending to customers as ordered. He was also known as having perhaps the largest number of colonies of bees in a single apiary of any man in America, and yet managed to secure an extraordinary average weight of honey from each colony.

Men like Mr. Alexander are the giants of bee-craft, and it is pleasing to know that he has left a record of good work behind him which will cause his name to be gratefully remembered by all bee-men the world over.

("*Management at the Heather*," *continued from page* 504.)

moors hives with shallow brood-nests had but 1 in. to 1½ in. of honey along the top of the brood-combs with the exception of the outer combs. In that year all the surplus was gathered between September 6 and 12. This year the bees collected practically all their surplus between August 3 and 12, and after cold weather in the beginning of September returned home from the moors with no eggs or brood in any form. (This seems to have been a general experience from questions in earlier numbers of the B.B.J.) Yet we found the brood-chambers of the divisional brood-chamber hives in a similar condition to those of the previous year. In both years hives with fitted "standard" frames have come back with their brood-nests full of honey and their supers lighter than for many years, and in many cases empty. My own experience has been that every colony with a shallow brood-nest has exceeded a colony of equal strength in a full-depth hive, even if contracted to five frames, by *at least* 25 lb. of honey in the supers. If our colonies with a shallow brood-nest only came back from the moors with the same increase of weight as those in full-depth hives, but with the honey in the right place—namely, in the supers—it would be a great stride forward. But those who try the system fairly will, I am sure, find the gain is more than this. —MEDICUS, Newcastle, December 8.

SWARMS AND DRIVEN BEES.

[7314.] Our mutual friend and my client "D. M. M.," in his letter in B.B.J. of September 17 (7210, page 372), makes a few errors in his remarks which in fairness I desire to correct.

Swarms at 2s. 6d. per lb. during May and the early days of June are certainly cheap and worth buying, I grant, but why should "D. M. M." not then state that driven bees at 1s. 3d. per lb. obtained in the early days of August are also cheap? What more is required than for driven bees to draw out their own comb and gather stores enough to winter on without any feeding required? Also is it right to say that the cost of carriage on the swarm was 3s. for motor, rail, and telegram, and for each lot of driven bees 4s. 3d.? I ask: Is that fair reckoning in making statements in your valuable B.B.J.? In order to arrive at a fair comparison, the cost of rail, &c., should be worked out approximately the same. Is it the supplier's fault that a client happens to live several hundreds of miles away? I have had the pleasure of supplying "D. M. M., Banff," with driven bees, and when the invoice was sent after he had received the four lots mentioned I received no complaint.

I have advertised through the medium of the B.B.J., and have again and again confirmed in my correspondence that I am prepared to give satisfaction to any and every client, and I hold numerous letters from clients who have become customers through "D. M. M.'s" recommendation thanking me heartily for value received. As to loss of weight in transit, I always charge according to net weight of bees "when put on rail," having weighed the box previously on the same scales, then subtract the difference for the bees.

I have not refused to replace queens lost or damaged in post, and understand from others who are sellers that they generally do the same.

Now, in closing, may I point out that establishing stocks from driven bees is the cheapest and surest way of obtaining good stocks? And the cost is as follows:

5 lb. driven bees at 1s. 3d.	6s. 3d.
Average carriage, &c.....	2s. 6d.
30 lb. sugar at 2½d. per lb.	6s. 3d.
Per stock	15s. 0d.

Returns in the following season: Twenty lots produced, with very little attention, an average of 45 lb. of honey per hive, along with twelve swarms, which obtained sufficient stores. Now it is known that driven bees, if fed well in the early autumn, have a quantity of brood reared; that means a strong force of bees for early spring work, and I am prepared to take up any challenge and prove from actual results the value of driven bees.—T. D. SINFIELD, Luton.

PURE RASPBERRY HONEY AND RAPID GRANULATION.

[7315.] I had a talk the other day with a bee-keeper located in the famous Blairgowrie raspberry district. He tells me that raspberry honey granulates very rapidly in the combs, and sections in consequence will not keep all winter. This leads him into frequent trouble with his wholesale customers, who when it granulates on their hands complain of having been supplied with bad honey supposed to be sugar-fed to the bees. Of course, this is untrue, as the bees never have sugar given to them. My informant tells me he is not alone in this matter, his neighbours having had the same complaint; in fact, they do not believe themselves their raspberry honey is good. I did all I could to persuade my friend that it was the best sign of pure honey to see

it granulate, and asked him for a section to send you for inspection, and he has since called on me with a 1-lb. section of his honey, which I am sending on to you. The sample was only taken off the hive this morning, and is granulated quite solid, as you will see. He also showed me sections of both clover and heather in the same state. He says he took a brood-comb right from among the bees, and found it was granulated the same.

Now, Sirs, I have not had bees long, but pin my faith to the "Guide Book." I find "raspberry" the very first plant spoken of as giving white honey of a delicious flavour, which I perfectly believe, and when you have seen the sample will you kindly give your opinion and advice on the honey granulating so firmly in sealed combs very early in autumn, as these bee-keepers wish to take their honey in sections and not for extracting? I may say the fruit-growers about here are only half-hearted about bee-keeping, and not many keep even a few hives, believing their honey will not sell because of its granulating. There are miles and miles of raspberry fields around Blairgowrie, and it is a pity so much fine honey should be lost every year for the want of such good advice as I think you can give. Trusting to see your reply soon in the B.B.J., I sign—BLAIRGOWRIE, N.B., November 27.

[Though granulated quite hard, the honey in section sent is excellent in all points, as we should expect "pure raspberry honey" to be. We were not aware that honey from the raspberry blossom had a tendency to early granulation, nor have we had any previous complaints of this fault. Raspberry honey is regarded as one of the highest-class honeys on the market in America, where that fruit is grown in enormous quantities.—EDS.]

THE SEASON IN BANFFSHIRE.

[7316.] Referring to Mr. Alec Low's request on page 467 (7288), I may say the honey season in this, the lower end of our friend "D. M. M.'s" county, has been very good, although one who is regarded as a "king of bee-keepers," located about eight miles distant, has had a miserable average of surplus. About £1 per hive would be a fair estimate here with men who paid reasonable attention to their little labourers, one such person raking in as much as £31 from seventeen hives. The great drawback here is that numbers of people keep "a bit rusky or twa," and when they do happen to get some "stuff" resembling honey they take it to their grocer, with all its trappings of pollen left in the sections and other objectionable things in putting up their run honey, and these folk are highly pleased when the grocer offers them 6d. or less per lb. for their produce, the consequence being that a bee-keeper of the right sort has great difficulty in getting reasonable prices for good stuff well put up. Foreign honey also selling from 4d. to 6d. tends greatly to spoil our trade, as most people refuse to give 9d. for honey when they can get it in the same shop for about 4d. High time Tariff Reform or some such boon were here for helping bee-keepers.

With regard to wasps, I would advise "A. L." to try the stale-beer plan, planting a bottle behind each hive. In a few days I took well on to 200 wasps from a single bottle. My summary is: Season good; average surplus, 35 lb.; price, 6d. to 9d. clover, 8d. to 1s. heather. Stocks are left in good condition. Wishing you a merry Christmas, I am, for the first time, yours,—F. OGILVIE, Portsoy, Banffshire.

OUT-APIARIES.

[7317.] Out-apiaries, though held in high favour by some, do not seem to be popular to the extent their merits deserve. The *sine quâ non* of successful bee-keeping is, to my mind, the presence of good forage-ground—say clover, sainfoin, and bean fields, or heath-crowned hills, also where strawberries and raspberries are grown for market. This bee-forage cannot always be procured at home, especially if the bee-keeper is living in a town of 14,000 inhabitants, as I do; neither can bee-men often be found in near proximity to each other. In my own case I may say that ten years ago I started an out-apiary, two and a half miles away, with one stock; now my little "farm" has increased to ten colonies. Of course, this has necessitated much labour, early and late (my business in town occupies me for sixty-four hours per week); yet I can claim to have been fairly successful. In 1907—a wretched season—six hives gave me 380 lb. of honey (mainly extracted), and this year my eight hives yielded 710 lb. of surplus. With regard to swarms, which I do my best to prevent by giving room in advance and keeping young queens, I have had very few. I also, luckily, have a friend on the spot who is able to hive a swarm for me. One fine Sunday morning, however, a swarm of about 8 lb. or 9 lb. clustered on the top of a fir tree 20 ft. in height. My good friend, who weighs about fifteen stone, thinking that discretion was the better part of valour, sent for me, and between us we safely hived the swarm. I might add here that I use the "Conqueror" hive. I would strongly recommend those about to start an "out-yard" to choose a situation suitable and easy of

access, and begin with one or two stocks. In addition to the greater amount of pure air and almost exhaustless stores of food, which benefit the bees, one derives both constant pleasure and exercise from the regular visits to their healthy home in the country.—J. W. M., Beverley, East Yorks, December 7.

LARGE "TAKES" OF HONEY.

[7318.] I am glad to see the bad honey season has existed elsewhere, otherwise I might conclude that the bee-keepers hereabouts were at fault, and not the season. I hear the same report all round as referred to by Mr. Harper (7282, page 465), my strongest stock having done no better than a very strong cast hived on June 13. The honey-flow both this year and last occurred in September, with no surplus worth mentioning; in fact, I myself am leaving all the honey gathered to the bees for winter stores, with a good supply of syrup in addition. We must now hope for better luck next year. Many bee-keepers will share my own regret that Mr. Salmon should withhold his information on management, mentioned in the B.B.J. of November 12 (7274, page 456), and probably after the editorial remark at the foot of "H. W.'s" letter on page 466 he may be disposed to let other bee-keepers benefit by the information. I hope so, for it is a pity to withhold useful methods on account of one individual.

I agree with your correspondent "Smoke" (7280) that if the Editors of the B.B.J. would occasionally give a few notes they would be welcomed by a large number of readers. Probably they, too, will consider it.—G. Kitching, Hathersage.

EUROPEAN HONEY-PRODUCTION.

[7319.] Referring to your "Reviews of Foreign Bee-Journals" (page 491), I would say: "Oh, lucky little Greece!" While France, Holland, Belgium, Germany, Spain, Austria, and even big Russia have to content themselves with an average of about 25 lb. per hive, little Greece scoops up nearly 1 cwt. Again, "Oh, luckier Denmark!" She beats us in butter-making—we all knew it; but now must we noodles of British bee-men all post off to Denmark at once to learn how to teach bees to make honey? Two hundredweight per hive from 9,000 hives! There must be some bee-men in Denmark as stupid as we; and, if so, what must the clever ones take? At least 3 cwt. per hive. Further, all even of their queens will not be blue-blooded racers; some will lag behind. What must their best do to make up for it? I should say, at least 4 cwt. per hive! Oh, land with milk and honey blest! Oh, Bee-Paradise! The Manxman must take a back seat now. Once more the Dane has conquered with his longbow! — Buzbee, Bassingbourn, Royston, December 10.

"COMBINATION" HIVES.

[7320.] From time to time Mr. Woodley puts in a good word for the "Combination" hive (7298, page 484), but I think a great deal more might be said in its favour. That the "W. B. C." is the most popular hive is generally admitted (7309, page 496), but I think this is owing to its construction and not to the number of frames it contains.

My ideal hive is one made to hold twelve frames and a dummy running parallel with the entrance (inside measurement 18 in. back to front). When manipulating one stands at the back, with the least disturbance to the flight of the bees. For wintering, I leave the full number of frames in the hive, placing two or three empty combs in the centre of the cluster. I believe spring dwindling is frequently caused by bees being wintered on seven or eight frames. If they are full of stores the queen has not sufficient room to rear a strong colony of young bees in early spring; if she has, breeding is checked for the want of stores. With a "Combination" hive I never have any difficulty in getting bees into supers. With gentle feeding I get the bees strong on twelve frames just before the honey-flow, then I place on two racks of sections, crowd the bees on to nine frames, and up they go at once. The frames removed are used for doubling. With frames parallel to the entrance I think bees are better able to protect entrances than when placed at right angles. Whether stocks are strong or weak, the frames nearest the entrance are occupied. When bee-keepers choose a ten-frame hive I think they are generally guided by the price and not by any prejudice against the larger hive.—Bee-Mason, Upper Clapton, N.E., December 12.

A BEGINNER'S FIRST SEASON.

[7321.] It may interest you to know that I started bee-keeping this year in June with a stock of Simmins's "Carniolans crossed with 'White Star' Italians." I was unlucky enough, one morning when I was away at work, to lose a swarm very soon after getting my stock, and I started a nucleus as soon as I found out my loss (about a week later), and this nucleus soon built up a good stock. I had great

difficulty in re-queening the original stock, although I most carefully followed instructions in "Guide Book." Two queens were rejected. The first was introduced by mail cage; the second I confined in a tea-strainer cage for two or three days. I then liberated her, and she seemed to be received in a friendly manner by the bees on comb, but the same evening I found her outside the hive dead! At the third attempt I was successful. Acting on Mr. Simmins's suggestion, I moved the whole stock to a new hive on a stand some distance away, and introduced the queen direct after dark in a matchbox. This stock then soon built up a strong colony, but, of course, my chance of surplus honey was spoilt by the delay. I subsequently obtained two lots of driven bees from separate advertisers in your journal, which I at first hived singly, but subsequently united, as I found that they were too weak to winter safely separately. Thus I have got three good stocks packed up for winter with plenty of sealed stores, mostly syrup, as I extracted a good many frames to make room for late breeding. There were eggs in two of my hives on November 1, and unsealed brood in the third. In addition to the syrup, I have provided each stock with a cake of candy, as from what I read in the JOURNAL, &c., it evidently pays to be liberal.

So far I am very pleased with my bee-keeping experiences. I have found no difficulty in manipulating, never wearing gloves and only occasionally a veil. I have only been stung five times, and on four of these occasions I quite sympathised with the offender, as she was nipped between my arm and sleeve or entangled in my hair. I have followed a "tip" and clipped the wings of two of my queens as a safeguard against losing a swarm. I hope before long to be able to go in for an expert's certificate, but so far have had no opportunity of visiting an apiary affected with foul brood, so have no practical knowledge of that, which I suppose is almost essential before one can obtain a certificate. As far as I know, the "Isle of Wight disease" has been in abeyance this year, and the honey crop has been very good with the few who were fortunate enough to have any stocks left after the epidemic of 1906-7. I bought a "W. B. C." hive from Abbott's, and have made another, finding no difficulty with a good copy to work from.

Enclosed is a view of my small apiary, which I hope to enlarge next year. —H. KELSALL (Major, R.A.), Isle of Wight.

[The photo sent is not sufficiently sharp for a tone block, or we should have been very pleased to have had it engraved for our "Homes of the Honey-Bee."—EDS.]

GLAMORGAN B.K.A.

[7322.] Many B.B.J. readers will no doubt be pleased to know—as you will—that the Glamorgan County Council have just raised our grant in aid of bee-keeping to £100—an increase of £25 over that of last year. This puts fresh heart into us. —W. RICHARDS, Hon. Sec., The Red House, Gabalfa, Cardiff, December 1.

[We are very pleased to hear that the good work of your association is being appreciated.—EDS.]

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of November, 1908, was £1,516.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

Queries and Replies.

[3853.] *Queen Cast Out in December.* —Would you advise me what to do in the following circumstances? I had a strong stock of bees headed by a 1906 queen. The season of 1907 being cold and wet, there was no swarming that year, but they did well, and I got some surplus honey stored in sections. The spring of 1908 was very cold, and the summer well advanced before the hive was filled with bees. However, I again secured some surplus honey from the flower-harvest, but still no swarming. In due course the hive was sent to the moors, and after bringing the bees home from the heather it was noticed that drones were plentiful, and, as I never had seen drones so late in the season, I thought something was wrong, and that they required a queen. In consequence I made an examination of the hive early in October, and was surprised to find plenty of brood, also several empty queen-cells. There were also plenty of bees and stores, and although I did not see a queen, I concluded that the bees had re-queened themselves, because an old queen would scarcely be so prolific as the state of the hive showed. Judge of my surprise this morning (December 5) when I picked up at the entrance what looked like a dead queen. Will you therefore please inform me through the columns of the B.B.J. on the following points?—1. Is the enclosed queen an old or a young one? 2. Do you think it is a virgin queen? 3. What should I do in the spring? Thanking you for reply, I sign myself—STRATHCARRON, Stirlingshire.

REPLY.—1. The fact of the dead queen sent having been badly "balled" makes it impossible to judge its age. 2. We should think it had been dead some days

before the 5th, as the dead insect was dry and hard when received. 3. If the hatching brood seen in October was normal worker-brood in worker-cells, it is quite reasonable to suppose that the stock has re-queened itself, and is now headed by a fertile queen.

[3854.] *Moving Hives in December.*—I should be much obliged for a reply through B.B.J. to the following question:—I have two hives separated from each other about twenty yards, a fence being between. Could one be moved now to a place beside the other without fear of loss in bees?—B. W. Bill, Romford.

Reply.—If not inconvenient, we should defer bringing the hives together for a time on the chance of cold weather keeping the bees indoors for three or four weeks at one spell. Failing this, move the hives as desired, and make some alteration in the appearance of the one moved, so that the bees may notice the change in location on taking wing for the first time from the new stand. A small branch of a tree laid on the flight-board will serve the purpose of causing the bees to mark the change.

[3855.] *Moving Hives at Christmas.*—Kindly inform me, through the medium of your paper, whether it would be advisable to move my hives of bees to a new locality, say about Christmas-time, or would it be better to make arrangements for them to stay where they are until the spring? I ask this because I am leaving here shortly, and am taking a new place in Sussex.—G. K., Kent, November 25.

Reply.—The hives may be moved at any time convenient at this season with perfect safety.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

C. H. (Hartford, Cheshire).—*Samples of Honey from Distinct Sources.*—By stating the actual quantity of extracted honey required, we could probably help you in obtaining reliable samples of extracted honey from clover, heather, and lime blossom respectively. It would, however, be more difficult to get genuine fruit-blossom honey gathered this year. Probably some Kent bee-keepers located within reach of the plum and cherry orchards of that county will have secured a small crop of fruit-blossom honey in April and May this year.

Seaside (Essex).—*Moving Hives in December.*—1. There will be no risk of loss of bees in moving skeps at any time of the year when the distance is so great as twenty-five miles. 2. Honey sent is of fairly good quality, its only fault being that it is rather thin in consistency.

C. H. B. (Stoke-on-Trent).—*Preparing Honey for the Show-bench.*—Without entering further into the question of the usefulness or otherwise of the communication to which we referred on page 480, we repeat what is there said—viz., since you purpose publishing your views in pamphlet form, it will be well to wait till the booklet appears before appraising its value. On the other hand, had we seen anything new or valuable in your communication we should have been glad to give it insertion. We may also say that our correspondent "Smoke" has already written thanking us for the reply given on page 464 as being all-sufficient for his purpose.

A. J. H. (Tring).—*Abusive Honey Buyers.*—We advise that no notice be taken of the abusive letter sent by the purchaser of your produce. The fact of his having got a sample dozen, and then ordered seven dozen more from the same lot, is quite sufficient evidence as to quality, to say nothing of a B.B.K.A. expert having bought from the same parcel and ordering more because of its "high quality." The present complaint about honey bought in September last being "nothing more than sugar" makes one wonder if the trouble arises from the honey having granulated. Anyway, you need not fear the threat of "having a good mind to advertise you in the Bee Journal." We can also understand your earnest wish to see the letter of your customer in print, but it could serve no good purpose to make it public in our pages.

Cairncross and Zillen (Pretoria, South Africa).—*Blocks of Hives for Dealers' Catalogues.*—We are sending an electro of the hive named to your London agent, and are making inquiries about the others.

Honey Sample.

E. J. G. (Hoddesdon).—*Jamaica Honey.*—We do not see any reason to doubt the genuineness of the honey as being "Finest Jamaica Honey." Indeed, the quality is better than much of the honey we have sampled from Jamaica. It is, of course, far below good British honey for quality.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

GOOD LIGHT WILTSHIRE HONEY, at 50s. per cwt., on rail. Deposit. Sample 3d.—"P. P.," BEE JOURNAL Office. m 51

GENTLEMAN'S CYCLE, equal to new. Would exchange for modern Bee-hives, stocked to the value of £4. Mutual approval.—GEO. WISE, Redgate-street, Pinxton, Alfreton Derbyshire. m 47

56 LB. LIGHT HONEY, in 14 lb. tins, 6d. per lb. Sample, 2d.—PROCTOR, Colne Park, Colne Engaine, Earls Colne, Essex. m 46

SECTIONS WANTED. State price; must be light and new.—THE HONIELADE CO., 23, Moorfields, E.C. m 45

BROOD AND SHALLOW FRAMES cost 8s. 100; make them yourself they cost 2s., or less if you use your waste pieces of wood. Get one of my "Special Planes" for grooving top bars, with two cutters, ⅛, ¼. Price 3s., post free.—SARGANT, 2, Clifton-park, Merton. m 44

WANTED, good Lantern Slides on Bee-keeping. State subjects and lowest price.—SHAW, Salisbury-road, Bexley. m 49

WANTED, for cash, 12 2-lb. "Stow" Bee Feeders. Approval. — THOMPSON, Apiary House, Gowdall, Snaith, Yorkshire. m 52

ENGLISH CONCERTINA, by Lachenal and Co., London. Exchange Bees, on Standard Frames, or sell.—WILLIAMS, Bee-keeper, St. Briavels, Glos. m 48

CORNISH HONEY. — 50 1-lb. Sections. 50 lb. Extracted. What offers?—BLACKMORE, St. Blazey. m 53

DEVONSHIRE HONEY.—For sale, about 4 doz. first grade Sections; also 1 cwt. Extracted Honey. Price on application.—ARTHUR V. TREBBLE, Romansleigh, South Molton, Devon. m 50

SALE, Clean Shallow Combs, in Crates. 5s. Crate, guaranteed healthy.—BEVAN, 31, Sheldon-street, Croydon. m 54

HONEY.—6 doz. lb. jars, 36s., on rail.—G. SHARP, Hauxton, Cambs. m 32

HAVING RECEIVED NOTICE TO REMOVE MY HIVES IMMEDIATELY FROM GARDEN, I have 12 strong healthy Stocks, 1908 Queen, full of Stores, to dispose of, from 18s. upwards; some of the Hives are new this season, and cost me 24s. Would not have sold if I could have found a place to keep them.—BOWMAN, Expert, Workington. m 41

WANTED, Bound Volumes of "Bee Journal" for 1892, 1903, 1904, 1905. — Price to HERROD, Apiary, Luton.

SELL FOLLOWING INCUBATORS: 200, 100. Cyphers.—HERROD, Apiary, Luton. l 59

PURE ENGLISH HONEY, from White Clover, in 1 lb. Screw-capped Bottles, 8s. 6d. per dozen, carriage paid.—T. WELLS, 2, Claudius-road, Colchester. m 25

LIGHT HONEY FOR SALE, in jars or bulk, large or small quantities, granulated or carefully reliquefied, at 56s. and 60s. cwt.—CHARTER, Tattingstone, Ipswich. m 19

JUST OUT, a new and improved Rapid Feeder, and as the price is only 9d., postage 4d., 10s. dozen, carriage paid, every Bee-keeper should try one; Hives at reduced prices, genuine "W. B. C." from 13s.—SOUTHERN BEE SUPPLY CO., Hellingly, Sussex. l 35

NARCISSI BULBS, mixed, 3s. 6d. per 1,000, package free.—S. HARBORNE, St. Buryan, Cornwall. m 27

Special Prepaid Advertisements.—*Continued.*

"THE PREPARATION OF HONEY AND WAX FOR THE SHOW BENCH," post free 7d.—JOSEPH TINSLEY, Chebsey, near Stafford b 24

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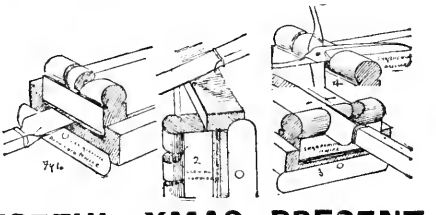

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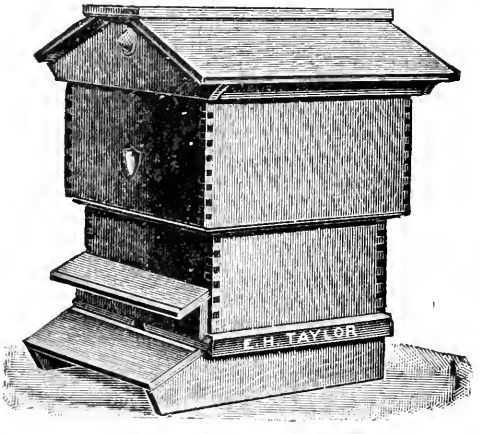

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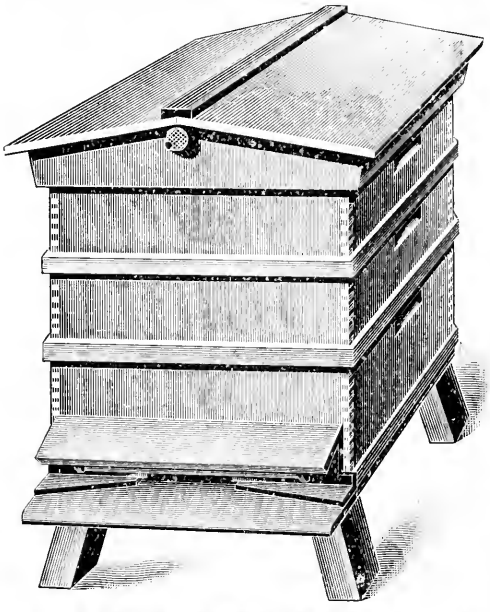

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Editorial, Notices, &c.

CHRISTMAS.

As our present issue will reach the hands of readers by Christmas Day, we take the opportunity of expressing the good old-time wish that it may be a day of joy and happiness in every "home of the honey-bee" in which the BRITISH BEE JOURNAL is read.—THE EDITORS.

We regret having inadvertently omitted to acknowledge our indebtedness to the A. I. Root Co., Medina, Ohio, for the portrait of Mr. E. W. Alexander on page 505 last week, and which was reproduced from a recent issue of *Gleanings*.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held at 105, Jermyn Street, S.W., on Thursday, the 17th inst., Mr. W. F. Reid occupying the chair. There were also present Messrs. W. Broughton Carr, J. B. Lamb, G. H. Skevington, E. Walker, and the Secretary.

Letters explaining enforced absence were received from Colonel Walker, Rev. H. R. N. Ellison, Messrs. T. W. Cowan, T. Bevan, R. T. Andrews, E. Garcke, J. P. Phillips, A. G. Pugh, and W. Richards.

The minutes of the previous meeting were read and confirmed.

Two new members were elected, viz.: Mr. N. S. Rothwell, Croft Lane, Norton-by-Baldock, Herts; Mrs. E. Sherwood, Vaggsfontein, Hordle, near Brockenhurst, Hants.

The Finance Committee's report was presented by Mr. Reid, and gave particulars of receipts and expenditure to date. It was duly adopted.

A full report upon the recent examinations for second-class expert certificates was received, and on the recommendation of the examiners it was resolved to award "passes" to Misses Gladys Grove, Amy Inglis, Amy Jameson, Rose Saunders, Rev. A. D. Downes-Shaw, Dr. H. W. L. Waller, C. Knight-Coutts, and D. Wilson, jun.

Judges were nominated to officiate at the "Royal" Show (bee-department) at Gloucester.

The next meeting of the Council will be held on Thursday, January 21.

REVIEW.

Der Bienenhonig und seine Ersatzmittel (Honey and its Substitutes). By Dr. Alfred Hasterlik. (Published by A. Hartleben, Vienna and Leipzig. Price 3 marks (3s.).—Bee-literature abounds in works treating on the various phases of bee-keeping, but honey-production, which is, after all, the main object the bee-keeper has in view, is only cursorily dealt with in them, and various investigations into the chemical composition and properties of honey are hardly mentioned. The object of this work is to supply this omission, and the author accomplishes his task in a very satisfactory manner. As the title "Honey and its Substitutes" implies, the book treats not only of honey, but also of all the different adulterants and substitutes frequently sold as honey under different fancy names, such as "table honey," "finest refined table honey," "finest fruit honey," "heather-sugar honey," "grape-sugar honey," and many others. The author's object is to make the bee-keeper acquainted with the most recent researches of the chemist, and to bring before the latter an understanding of the anatomical functions of the bee in relation to the production of honey. We have no hesitation in saying that this is the most complete work that has hitherto appeared on the subject. The first chapter discusses the nature, origin, and composition of honey derived from bees, as distinct from that from other insects, which is treated in another chapter. Dr. de Planta's researches on nectar and honey are detailed, and the conversion of the nectar into honey explained. Chapters 3 and 4 treat of the researches into the chemistry of honey. Chapter 5 explains the practical methods for removing honey from the combs and ripening it. Other chapters describe its flavour, consistency, colour, and aroma, honeys from different sources being also described. In view of the alarming extent to which the adulteration of honey has been practised on the Continent, the chapter on this subject is opportune, and it is satisfactory to learn that legislation to put a stop to it is extending to different countries, and is being energetically pursued. The pharmaceutical uses of honey in various parts of the world are mentioned, those of the British Pharmacopœia being given in detail. Besides these, there are a number of recipes for the use of honey in the manufacture of mead, lemonade, vinegar, gingerbread, and cakes of various kinds. In Chapter 15 full instructions are given for the detection of adulteration, the last chapter containing a description of the substitutes usually employed in replacing genuine honey, such as cane-sugar, starch-syrup, grape-sugar, glucose, invert-sugar, &c., their manufacture, and use in artificial honeys. There are sixty-three illustrations, while its 232 pages are full of useful information, and we are pleased to recommend the book, which should find a place in the library of every bee-keeper knowing the German language.

BEES' STINGS AND RHEUMATISM.

By E. W. Ainley Walker, D.M.Oxon.*

(*Concluded from page* 503.)

The Action of Formic Acid and the Formates in Rheumatism.

The next step in the following up the subject of the present inquiry should evidently be to determine if possible the nature of the active agent in bee-poison. Considerations of space, however, do not permit me to do more than refer briefly to the fact that the nature of the bee-poison has been investigated by Langer, of Graz (as Dr. Terc informs me); by Phisalix, in a paper presented to l'Académie des Sciences in 1904; by Calmette in his work on Venoms; and by Morgenroth; and it appears that the poison in the sting contains, in addition to the acid formic acid, an alkaloidal base akin to the venoms. There are therefore two important constituents to be considered. But if a provisional conclusion may be drawn from the few statements subjoined as to the effects of formic acid and formates, the action of bee-poison in rheumatic subjects would appear to be attributable to its formic acid content.

1. *British Medical Journal*, 1907, ii, p. 184.—A. M. writes: On reading Dr. Ainley Walker's letter regarding the popular belief that the sting of bees is both protective and curative for rheumatism, it occurred to me that if it were so then the formates should be useful in that affection. I was suffering at the time from an attack of lumbago, which had been more troublesome than usual to get rid of. *After taking two doses of 15 grains the pain had quite gone. In two other cases I have had equally good results . . .*

*** (Ed.) Formic acid diluted with an equal quantity of water has been used in the treatment of neuralgia and rheumatic pains. . . .

2. *British Medical Journal*, 1907, ii, p. 303.—Dr. H. M. Sutton writes: With reference to the letter of "A. M." in the *Journal* of July 20, and the question of the use of formates in rheumatism, I have met with what is practically a liniment of formic acid prepared from ants as a popular remedy for rheumatism in Germany. An open bottle containing brandy is placed in an ant-hill. The ants swarm into the bottle, which is then removed, corked, shaken, and set aside for a time. This household remedy is called *Ameisenbranntwein*, a name equivalent to spiritus formicarum. . . .

3. *Lancet*, 1907, ii, p. 985: "Hesperus" writes, referring to an interesting review of the history and literature of formic acid as a therapeutic agent in the *Journal of the American Medical Association*, April 28, 1906, p. 1258: Stern believes its effect on rheumatic joints is simply due to its action as a counter-irritant. The writer continues: "Several cases of arthritis deformans, lumbago, and acute sciatic rheumatism are described by Dr. L. B. Couch in the *Medical Record* (New York), June 24, 1905, p. 972, full details being given as to the symptoms, treatment, and results. As regards bees' stings, Dr. Couch heard of a bee-farmer in Long Island who had been speedily cured of chronic rheumatism by being stung by his honey-bees. He wrote to the farmer for corroboration, and was informed that the story was true. . . ."

4. *Medical Annual*, 1906, p. 21: "Couch (*Medical Record*, 1905, p. 972) has found formic acid a marvellous remedy in rheumatic conditions and in arthritis deformans. He injects formic acid in a $2\frac{1}{2}$ per cent. solution just under the skin in the neighbourhood of the painful joints. A preliminary injection of 5 to 8 drops of 1 per cent. cocaine solution is employed, and then an equal amount of the formic acid solution . . . larger doses cause painful swellings. . . . Several areas may be injected provided that they do not come within 2 in. of each other. As many as thirty injections have been made, but, as a rule, twelve to fifteen are sufficient for one day. They should be repeated every day, or every alternate day, till the pain ceases." (For fuller details Dr. Couch's paper should be consulted.)

If an apology is needed for thus bringing forward a series of scattered statements which the writer has himself no opportunity of testing, the interest and importance of the subject may be urged as an excuse. There is, perhaps, no disease which in this country causes more continued suffering and more widespread incapacity for work, especially among the labouring classes, or in which our present treatment is more lamentably inefficient, than chronic rheumatism in its various forms. Doubtless the bee-sting treatment readily lends itself to ridicule (as Terc has found); but the common beliefs and household remedies of country folk have before now—as in the familiar case of "foxglove tea"—revealed important remedies previously unknown to the medical profession. That such is the case in regard to the poison of the bee is steadfastly maintained by Dr. Terc, who speaks of the bee's sting as "the poor man's remedy." It is at least desirable that the value of Couch's method of formic acid injections should be submitted to trial, and the whole question might form a fitting subject for collective investigation. It is at present merely interesting—possibly, in some aspects, also humorous.

* Reprinted from the *British Medical Journal*.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

THE ISLE OF WIGHT BEE-FUND.

CLOSING OF THE ACCOUNTS.

[7323.] The opening of this fund was announced in B.B.J. of April 9, 1908, Colonel Walker to act as Treasurer, the distribution being left to Mr. John Silver, assisted by Mr. H. M. Cooper, Thorley, Isle of Wight. The reports detailing progress that have been sent from time to time to the B.B.J. by the administrators will, I believe, have been found satisfactory, especially the last by Mr. Cooper, in your issue of November 19 (page 462). I now wish to give an account of my stewardship as Treasurer.

The following subscriptions, in addition to those already published, have been received:—Lady Phillimore, 5s.; Rev. S. Rashleigh, Leslie Morris, J. Vicars, 10s. each; Rev. W. Medlicott and Canon Phillips, 5s. each; Messrs. Hewitt, Pearman, and Eales, 5s.; and J. Ellis, 2s. 6d. Small sums contributed by recipients of stocks amounted to £2 7s. 10d.

In addition to previously-acknowledged gifts in kind, Misses McNinch and Taunton, Messrs. E. Atkins, R. Beck, O. Browning, E. Bugden, G. Chandler, the Croydon B.K.A., H. Davidson, W. Davies, J. Ellis, Greenhill and Son, "Hants Bee," D. Hancox, J. Lake, James Lee and Son, S. Leigh, E. H. Taylor, and W. Woods have all contributed.

Total amount received in cash, £26 10s. 4d.; expended, £25 7s. 3d.; balance in hand, £1 3s. 1d. The cost of administration has been, in my opinion—and, though not responsible, I have kept my eyes open—moderate. My own trifling expenses have not been charged. The accounts being quite simple, I have not submitted them to professional audit, but shall be pleased to do so on the demand of a bare majority of subscribers, or to answer privately any *bonâ-fide* questions.

The trouble that Mr. Silver has taken in this matter has been a constant source of astonishment to me. As he intends to revisit the island next spring, I shall forthwith hand over to him the unexpended balance, £1 3s. 1d., so that he may spend it in further allotment of stocks or swarms. Now that the general fund is closed, anyone who may be inclined to assist further should send his subscription straight to Mr. John Silver, Croydon Grove, Croydon, with instructions as to distribution. He has some ideas of his own as to special treatment of bees, and will be pleased to have the opportunity of carrying them out. Mr. Cooper's expert experience and assistance have been most valuable, and will doubtless be still available when required.

I am convinced that much good has resulted from the fund, not only by extending a friendly hand where help was sorely needed, but by the stirring up of bee-keepers who had grown slack and despondent to a proper sense of their duties towards themselves, their bees, and the fraternity in general.—H. J. O. WALKER (Lieut.-Col.), Leeford, Budleigh Salterton, December 15.

HIVES.

[7324.] Communications from Messrs. J. N. Kidd (7308, page 495) and G. W. Smith (7309, page 496) suggest this letter. Let me say at the outset that I hold no brief from any maker of hives, and although I have a favourite hive, yet that particular make does not on the average yield a heavier surplus than any of the other makes I have in use. A bad workman is prone to lay the blame of indifferent results on the tools he uses, and in my novitiate days I was no exception to this rule. Hives were blamed for poor "takes," and all the popular makes were tried in turn until my apiary showed a collection of all or most of the British makes, with at least two of American design. The largest "take" of sections I have to record was in 1904, when I secured 118 clover sections and thirty-six at the heather from a hive which was made by a local joiner, and was simply a box made to take eleven standard frames, with room above for three section-racks each holding twenty-one 1-lb. sections. Year after year I have worked all the above types of hive side by side, and, after rather an extended experience, I must frankly say that the results would not warrant my going to the trouble and expense of doing away with all makes in favour of any one of them. These remarks apply equally to single- and double-walled hives, but there are certain things which are a *sine quâ non* in all. Ample facilities for ventilation (which include a loose floor-board) and for expansion and contraction of the brood-chamber when needed, also ample room for supering—these are the most necessary conditions. In addition, a uniform size of frame should be used, and, after going through all the different phases of the "new" frame craze, common to young bee-men,

I pin my faith to the B.B.K.A. standard frame for the ordinary brood-nest. In this communication I am not going to make invidious comparisons of any makes or styles of hive: I simply want to show that it is not the kind of hive used which secures for the bee-keeper his large "takes" of honey. Most of those on the market now reflect great credit on their designers and makers, and are very helpful to beginners, as difficulties in manipulation are reduced to a minimum. On the other hand, some of them must be regarded by the man who is making his living, or most of it, from bee-keeping as expensive monuments to the skill of their makers, and quite unnecessary luxuries in an apiary run entirely as a business concern. There are perhaps not many such apiaries in Britain; still there are some, and it is interesting to notice the difference in the hives in use. Mention has been made of Mr. Woodley's preference for the "Combination" type, and this brings to my mind a hive now in use by the most successful producer of heather honey that I know. The bee-keeper in question has a large number of stocks, and his business is almost exclusively the production of high-class heather-honey. His bees are scattered about in one small home-apiary and quite a number of out-apiaries among farms within a certain radius of his home. The hives in use are all his own make, of the "Combination" type, but with frames somewhere near the size of our shallow-frame in the brood-chambers. My friend is not a bee-keeper of mushroom growth, but an old hand at the craft, and on a recent visit I had the pleasure of inspecting some of the hives in question, and was struck by the neat, compact, and prosperous-looking condition both of the stocks and their enterprising owner. I have not permission to describe his whole *modus operandi*, but I may say he makes a success of his bee-keeping. Who will deny the possibilities of the craft when we find a member, after long experience, abandoning orthodox methods and with every confidence giving up the props to his business, and going in for more bees solely for the production of one class of honey as a means of livelihood? In districts where both clover and heather are plentiful a large hive which can be reduced at the end of the clover-flow is a necessity, but where stocks have to be moved a long distance to the moors, any of the double-walled hives now in use are not suitable owing to their size and weight adding so much to the cost of removal. In purely heather districts a small brood-chamber is advocated only when bees are storing, that is, in the months of August and September. Experiments with the "Divisible" brood-chamber so far seem to point to its being useful for this special work. There are, however, two objections to the hive now in use by members of the Northumberland and Durham B.K.A. and described by Mr. Kidd. The frames are close-ended, and to the ordinary bee-keeper difficult to manipulate, and with the hive as it is at present only 5 in. by 4 in. sections can be used. Can any of our British makers adapt the hive to British requirements and bring it within reach of all who may wish to try it?—G. W. Avery, Heads Nook, Carlisle, December 12.

MID-WINTER!

[7325.] The seasons are always full of surprises, ever differing from those of previous years. To-day, when the day is at its shortest and the sun at its lowest in the southern sky, we found the "little people," as Rudyard Kipling so charmingly calls them, all astir, and at every entrance they were fanning with great industry, ventilating their homes and driving out the excessive moisture produced by the late murky days. Well into the dark could the hum be heard, bringing back memories of still evenings after a heavy honey-flow, and raising hopes for the coming season in the minds of those fortunate enough to hear. Not just the gentle hum heard when the ear is brought close against a hive, but a joyful roar that could be heard several yards away, and yet the sun was an hour gone and mid-winter is with us.—Medicus, Newcastle-on-Tyne, December 20.

BEE-STINGS AND RHEUMATISM.

[7326.] There may be some confusion in the minds of others besides myself as to the malady, and it certainly would be interesting to many if one of the medical profession would give a pronouncement on "Rheumatism *versus* Gout." Rheumatism is said to be due to the admission of a microbe into the system just in the same way as one may contract "typhus fever" or "bubonic plague." The microbe in question has even been isolated and incubated, so there seems little room for doubt that rheumatism is a definite disease. The suggestion, therefore, implied, if not asserted, that when one has been repeatedly stung by bees he is for the future immune from the malady, also implies that formic acid or other chemical compound present in the bee's sting has inoculated the subject just as vaccination does. Is it so? On the other hand, when the kidneys partially fail in their function some poisonous compounds, chiefly uric acid—which ordinarily are filtered away by those organs—are allowed

to pass back into the blood, and the system becomes contaminated, giving rise to acute pains—gout (?). This would appear, then, to be due to a state or condition of the blood. I understand that formic acid, coming in contact with uric acid, neutralises it, forming a perfectly harmless compound. As one's state of vitality is for ever changing, there may be at any time a surcharge of uric acid, and consequently a recurrence of the malady; but the bee-keeper is constantly liable to a sting, and certainly at times gets one, or may be more, so he is frequently introducing into his system a check to the virulence of the trouble. Cessation of the check brings about a recurrence of the evil; at any rate, it appears to be so in my own case, for I am quite free from pain when working among the bees in summer-time, and now and again have a return of it in the winter months.

Variableness in Bee-keeping (*vide* 7309, page 496).—Of course, the crux of the whole question of successful bee-keeping is location, but there are many side issues which largely affect the balance-sheet. I have kept my bees for many years in the same garden, yet neither the quality nor quantity of my honey is constant. One year I remember the whole of my late sections had a very strong peppermint flavour, due, it turned out, to the bees visiting a brook where wild peppermint was in full bloom. There has been no repetition since. For the most part, the honey in this neighbourhood, while good in flavour, could scarcely be classed in the lightest grade, yet this year it has been almost white, and superb in flavour, density, and aroma; while as to quantity my return has been ten times that of last year, some hives for the first time giving as many as 100 filled sections, and securing enough to carry them through the winter besides. Sixty-three sections from a single colony was my previous record. There is just as great diversity on the debit side of the balance-sheet. One or two cases that have come under my notice will illustrate this point. Thirteen years ago a man obtained a colony of bees that had made its home in the crown of a pollard elm tree. From this small and inexpensive beginning, by the addition of swarms and driven bees, an apiary of between twenty and thirty colonies has been built up, with no further outlay than the cost of the annual subscription to a bee-association—which every bee-keeper should make it a point to incur—and timber necessary for the making of hives, and just the smallest amount of apparatus with which to work. Working on these lines, it is not at all surprising that our friend "D. M. M." puts the profits as high as cent. per cent. The above might be put much higher. Another started bee-keeping with a nucleus of Ligurian bees in a most elaborate hive at a cost of £5, and although that was several years ago, I believe neither the hives nor bees have been successful. I have in use both the "Combination" and smaller and snugger hives. I find the latter are more

(*Continued on page* 516.)

MESSRS. ODIER AND MEYER'S APIARY, NYON, SWITZERLAND.
STOCKS FOR TRANSFERRING AND SWARMING.

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

We have much pleasure in giving a view of one of the picturesque apiaries of Messrs. Odier and Meyer, of Nyon, Switzerland, who, besides being honey producers, are sole manufacturers in Switzerland of "Weed" foundation. In reference to the illustration they state:—

"This is an apiary where we place com-

mon skep-hives which we purchase for the purpose of re-selling, or for transferring the bees from them into frame-hives of the 'Dadant' type. We receive the hives in spring, and generally by the end of the season they are all disposed of. By stimulating the bees early in the spring we make them produce early natural swarms. The hives shown in the photograph come from Belgium. They are large, dome-shaped, straw skeps, entirely closed in, and have two openings by which the bees enter and leave the hives. One of these entrances is placed one-third and the other two-thirds of the height of the skeps."

In Belgium it is the practice of those who use such skeps to have both entrances open during the summer season and the lower one closed for wintering. Some of the ordinary Swiss straw skeps are seen standing on the ground.

("*Bee-stings and Rheumatism*," *continued from page* 515.)

successful with me, but it is probably a question of management. If a colony is getting too strong before the honey-flow it is useful to help one a little backward with brood by taking one frame from the former and giving it to the latter, and putting in its place a frame of foundation (full sheet).—ALBERT SANDYS, Drayton, Berks.

THE INFLUENCE OF BEE-STINGS.

[7327.] The question of the influence of bee-stings upon rheumatism is a very interesting one, but so far the underlying assumption seems to be that all stings are equal. Whether the difference in effects is one of kind or degree should certainly be investigated, for that such differences do exist will no doubt be confirmed by many bee-keepers of more experience than myself. Individual variations of health cannot, apparently, account for the difference of effects, as I have been stung at the same moment by two bees—one on each hand—from the same comb which I was inspecting at the end of September. I can certify from careful watching that each bee got its sting well in, and after the usual graceful waltz left it firmly embedded. The comb was lowered in due course, and the stings removed in the usual way.

My right arm swelled up almost to twice its normal size as far as the elbow. My left had only a slight swelling of the first joint of one finger. It is an absolute certainty that the two bees, if not from the same comb, were from the same hive. How do you or your expert readers account for the very different results from two practically simultaneous stings? I may add that other stings from the same hive previously produced no swellings to speak of. I send name for reference.—L., East Yorks, December 13.

WAX-RENDERING.

[7328.] In August last I wrote in your pages asking for the experience of others with regard to the operation of "wax-rendering," and wish to thank those who replied, and also to give the results of my own experiments, as I promised at the time. Only one of those who replied, however, gave what I particularly wanted—viz., quantitative details of the results—and this one—Mr. Farmer in B.B.J. of September 3 (page 355)—gives $2\frac{1}{16}$ oz. of wax per comb; but this, he says, was from combs between one and two years old! As I never melt down combs so new as these, my results can scarcely be compared to his, but I have averaged $1\frac{4}{5}$ oz. from really *old* combs extracted by the solar extractor, no cost being involved, while Mr. Farmer's method by use of oil-stove must be considerable. In your issue of September 24 (page 384) Mr. Woodley gives an ingenious arrangement of solar and lamp heat combined, but I do not find that any supplement to the sun's heat is required. With my extractor (home-made) I can extract from old combs on any sunny day from March to September inclusive—in fact, most of my melting is done in spring and autumn, when old combs are renewed and skeps driven respectively.

In considering Mr. W.'s arrangement, I have wondered how any *opening* could be permitted, as I find nothing attracts a crowd of hungry bees so quickly as to open the wax-extractor when hot!

Mr. Crawshaw, in his letter on page 377, speaks rather slightingly of the solar extractor, but on page 397 he praises "D. M. M.'s" review of Mr. Cowan's book "Wax Craft." Did he notice, I wonder, that in this book the *first* advice to the bee-keeper is to obtain a solar extractor? He also acknowledges that wax-extracting "spells work," but does not answer the question—Is the result worth it, in addition to mess, smell, and firing? Now, in the solar extractor there is but little work and *no* mess or smell or expense for fuel, while the results are certainly superior in quality. In an experiment I performed with great care on a selection of really old combs, five of them extracted in the most approved manner by soaking, boiling, and skimming (boiling repeated three times), and I obtained 6 oz. of very dark-coloured wax, while the corresponding five combs yielded in the solar extractor

7 oz. of far lighter and superior wax. I find water always damages wax.

Also from fifteen skeps, all old and only of a very moderate size, I obtained 7 lb. 6½ oz., being very nearly 8 oz. per skep of wax of good quality, which would otherwise have been wasted, for had I not a solar extractor I should take the advice of "T. A. F., Reading" (page 346), and consign old and pollen-clogged combs to the flames, for I certainly do not consider the wax obtained from them to be a sufficient remuneration for the trouble and expense of boiling or steam extracting.

I enclose a specimen of wax from old skeps for your inspection, and should you think a description of my home-made extractor would be of sufficient use and interest, I will send you one later on. Meantime, if more bee-keepers could give figures comparing results of other methods with mine it would be valuable evidence of the efficiency of the solar as compared with other methods of rendering.—A. Arnold King, Hastings, December 17.

[The sample of wax sent is of good commercial quality, such as a manufacturer of comb-foundation would be glad to buy. —Eds.]

DIFFERING OPINIONS.

[7329.] I think that those willing to learn may gain some useful lessons from the various discussions now going on in the B.B.J. Anyway, I find they help me to fix my own opinions very firmly. For instance, with regard to a "Divisible" brood-chamber hive. I have experimented a little in that way, but here in the South of England, where surplus-storing is over by July 20, twelve or fourteen standard combs running parallel with the entrance in my opinion gives the best results. But even in the heather districts I should certainly think that if the brood-nest is contracted to six, seven, or eight standard combs quite as good, or even better, results would be obtained, because it seems to me that any comb in brood-frames with heather honey in them could be cut out, and, if desired or considered necessary, other frames could be substituted, and the colony fed up for the winter if needed.

Conflicting Impressions. — With the above in mind, it recalls a letter I had from an "expert and lecturer," who strongly advocates drone-cell foundation for shallow-frames as being more up-to-date than worker-comb, and he specially commends drone-comb to novices for storing honey in (I will not say what I thought of that advice). I find myself that combed shallow-frames are first-class for hiving driven bees on, and I should say the same for swarms, for it will occur to the merest tyro that when placed over standard brood-frames the bees will soon transfer themselves downwards, and the shallow-frames are then ready to be filled again for extracting, if desired, of course at the proper season. I, too, like many others, find a ten-frame brood-box far too small. I consider it necessary to have brood in at least ten frames by the first week in May, and fourteen frames give me the best results. In my best season I secured an average of 60 lb., my heaviest "takes" being 83 lb. and 84 lb. respectively. A neighbour 300 or 400 yards away, who depends on the local expert, seldom gets 30 lb. surplus off one hive. But his bees swarm naturally—mine don't. Controlling—aye, preventing—swarming is with me simply a question of management.—A. H., Wavendon, Bucks, December 14.

KEEPING MICE OUT OF HIVES.

[7330.] Among useful hints by "D. M. M., Banff," given on page 494, I miss an important one—viz., *how to guard against mice*. I have several times suffered for want of some sure protection from these pests. In keeping mice out of frame-hives, nail a strip of queen-excluder zinc right across entrance, with a hole in the middle formed by cutting away one of the cross-portions of the zinc. This will leave a passage-way into the hive wide enough for two bees to pass at a time. Without this precaution, I have had the doorway enlarged by mice. Another useful hint is: Make sure that all roof ventilators are mouse-proof. For this there is nothing better than the perforated brass cone, if firmly fixed. With skeps place rags wet with paraffin on the top. If there is a feed-hole, surround it, 2 in. or 3 in. away, with the cloths wetted often.—W. E. Burkitt, Buttermere Rectory, Hungerford, December 10.

ARTIFICIAL HONEY.

[7331.] I have copied the paragraph below from the "Journal R.I. Public Health," vol. xvi., No. 11, page 690, thinking it might perhaps interest readers of the B.B.J.—J. R. Baxter, M.R.C.V.S., Glos., December 10.

A METHOD FOR DISTINGUISHING ARTIFICIAL FROM NATURAL HONEY. V. FIEHE (ZEITS. F. UNTERS. NAHR. U. GENUSSEN, xvi., pp. 75, 76).

Artificial honey probably contains a substance derived from the decomposition of fructose which is never found in the

pure article. This may be detected as follows: 1 gramme of honey is ground with ether, and the ether filtered off and evaporated. The perfectly dry residue is rubbed up with a few drops of a solution of 1 gramme of resorcin in 100 grammes of fuming hydrochloric acid (sp. gr. 1.19). If the decomposition product mentioned above is present, an orange-red colour is produced which rapidly becomes cherry-red and then brownish-red. This test is very sensitive, and gives positive results when only a small amount of artificial honey is added to the pure article. Genuine honey when tested in this way yields a faint rose to orange colour, which rapidly disappears, and cannot be mistaken for the reaction produced with the artificial product. The reaction with pure honey is probably due to the slight solubility of fructose in ether and the resulting decomposition of the trace dissolved by the hydrochloric acid of the reagent.

CAPPINGS OF COMB.

BY L. S. CRAWSHAW, ILKLEY, YORKS.

"*Don't Jar*" (page 462).—This injunction is supposed to ensure care on the part of Mr. Porter. But it does not seem to be always understood or noticed, and might be more effective if worded "Don't Shake or Drop," with such notices as "Fragile" and "Please Handle Carefully" also prominently displayed. "Don't Jar" is sometimes seen too late by slow-witted carriers. Possibly the villains think that honey is the better for being properly "jarred"! This, however, should be done before despatch.

Cheer from the I.O.W. (page 462).—It is very cheering to have this grateful recognition by Mr. Cooper of the work done, and sympathy and help extended to the islanders in their recent trouble. Very cheering indeed. And the report of progress and of better conditions is also full of cheer. Three cheers!

The "Wells" System (page 464).—Mr. Smith's suggested modification is not really sound. After the removal of one queen the bees might rear another. Even if they did not, honey which properly belonged to the supers would go below as the brood hatched out. What is the "difficulty of manipulation"? And what is a "theoretical myth"? If the "Wells" system be closely followed good results may be obtained, so whilst there is every reason for further experiment, in this case particularly along the lines of retaining both queens with dummy removed, yet I would suggest—if I may—that Mr. Smith let Well(s) alone!

More Hope (page 465).—Here it is! Best wishes for 1909! Truly Hope springs eternal in the bee-keeper's breast. No sooner are the bees packed down than he looks forward to the wonderful time of the crocus and the arabis. May his heart never know disappointment in the coming of Hope's Eternal Spring.

Standard Hive (page 473).—Much and various trade goes to the foreigner on account of his readiness to fall in with local demand, or approved standards, the while our manufacturers continue to "like their own way"; and although no one maker is comparatively strong enough to impose his own standard, as has largely been the case in America, yet I should have thought that manufacturers could even to-day agree upon certain standards. A standard "W. B. C." hive, a standard "Combination," and a standard "Cottager" with inverting lift would each fill a useful place in this land of many dogmatic opinions.

Temper (page 474).—It is hardly fair to criticise Mr. Sladen's "British Golden" bees on the strength of the temper of hybrids resulting from *mésalliance* with local blacks. Obviously to get the best results they should be kept pure, and young queens should be mated with the same stock; or if this be difficult, the matter should be put right, and kept right, by the purchase of more queens of the same stock from time to time. Hybrids should not be tolerated. What is the use of all the selective care bestowed upon the variety by the breeder if the obtained results are to be broken down and nullified by the subsequent owner? The question should be put to practical test. A few shillings extra for a queen may easily be repaid in the honey crop, and that should be the consideration; and a test should not, in fairness, be confined to one queen. Several should be purchased to properly test a breeder's stock. This may be done without heavy expense by co-operation, and the chances of proper mating increased. But do not fail to take the breeder into your confidence and tell him exactly what you want. And if the bees do justify the claims made for them, don't let them deteriorate into hybrids and then blame the variety. The most elementary knowledge of breeding laws is sufficient to entirely condemn this penny-wise-and-pound-foolish practice.

Importance of Queen (page 475).—"This year I did not do so well, as I had a poor queen." This ought to be dinned into the ears of those who appear to think any queen will do, whereas the truth is that some of their hives had better be queenless, and thus stand a chance of being re-queened! Perhaps! We are so apt to think of the importance of modern apparatus that we may imagine it to be

an old-fashioned or exploded theory that success centres in the queen. So, whatever bees you keep, see that the queen is not only young and vigorous, but from good stock of its kind. And if your bees are subject to spring dwindling, or foul brood, or wax-moth, or do not enter sections readily, or cap their honey white, and you are convinced that "management" is not to blame, would it not be well to try a better strain in which such points have had special attention? Always bearing in mind that you may be to blame, it would be well to guard your neighbours from the intrusion of alien blood by trapping the drones, should you decide to introduce a different race. Then you do not unfairly break up the stock which has locally proved itself. Be it understood that, although I am a firm believer in the black bee for the English climate, I have yet an open mind as to what can be done in a suitable district by acclimatisation and systematic selection.

Wasps (page 477).—In reply to Mr. Kennedy's query, I would say that I have found wasps very scarce in this county. This may be attributed to the difficult spell of weather which occurred in April. It hit the wasp below the thorax! The queens had come out of winter quarters and begun work, facing the elements single-handed. Although the conditions were singularly unequal, the failure is remarkable in that a bad season had already wiped out the unfit. Possibly the stamina of the survivors suffered, but it is quite certain that we shall again hear from our friends the wasps.

Horse Throat (page 481).—These honey cures of equine ailments are worth notice by veterinary doctors. And any bee-keeper who turns hoarse this winter should not forget the remedy so close at hand.

Foul Brood Cure (page 481).—Here is strong evidence that disease may be controlled, if not actually cured, by systematic re-queening from stocks which show themselves able to resist disease.

Rheumatism (page 482).—In this connection I am reminded by a preceding "Capping" of a case in which a horse was suffering so acutely that the knacker was sent for. The discussion must have taken place within hearing of the cripple, for, as an evident act of revenge whilst yet there was time, the poor beast tottered over to some bee-hives and upset them, being covered as a consequence with bee-stings. Hearing of this, the owner imagined that the undertaker would arrive too late to be of service, which was actually true, for when the man arrived the horse was galloping round the field!

TWO POINTS OF VIEW.

WHAT THE BEE-KEEPER SAID.

My stocks this year are sound and strong,
In fact I think I shan't be wrong
In hoping I may take ere long
  Two hundred pounds of honey.
What's that? A swarm! Oh, how insane!
Which hive? What! That one swarmed again?
It's quite enough to turn one's brain—
  And yet—it's very funny—

I could have sworn I'd killed their queen.
Either—how dense I must have been,
Or else—whatever can they mean?
  Hello! Here comes the rain!
Shall I be scored off by a bee?
I'll put them back and *make* them see
They've got to do what pleases *me*.
  (Next day) Great Scot! they're out again!

WHAT THE QUEEN BEE SAID.

Two new queens out? Why, then, I fear
There won't be room for *me* in here:
Go out, and seek a lodging near,
  Then all fill up with honey.
Last night our master paid a call,
And turned us over, great and small,
Then killed the largest *drone* of all
  With lots of ceremony.

I'm sure he has some deep-laid plot—
So swarm while yet the weather's hot,
For who can tell, if we do not,
  We shall not all be slain?
Well, here's a door, so in we go—
What? Our old hive! Not if I know!
Shall this mere man coerce us so?
  Out, bees, and swarm again!

J. C. L.

December 17.

Queries and Replies.

[3856.] *Suspected Queenlessness and Bee-management.*—In June, 1907, I purchased a "cast" of bees weighing 3 lb., and hived them upon eight frames of foundation. I fed with syrup for about a month, and the bees drew out the foundation into comb, storing therein a little honey. In the autumn I reduced the frames to six in number, and placed a cake of candy (weighing 11 lb.) on the top. In March, 1908, the candy was all consumed. I therefore fed with syrup, and later on spread the brood by inserting the two frames—which were taken out in autumn—one at a time in the centre of brood-nest, breaking the cappings of honey-cells when inserting the combs. Later on I added three more frames of foundation, thus making eleven in brood-chamber; these were all covered with bees by the end of April, when I put on a super containing eleven standard frames of foundation. The bees drew these out into comb, and stored 40 lb. of honey in them, which I extracted, and in

September last I reduced the frames in brood-chamber to nine in number—which contained a fair quantity of honey—placing an 11-lb. cake of candy on the top. There were plenty of bees and some brood in centre combs, and all seemed right when I packed for winter, but the other day I noticed several drones going in and out of the hive, to which the workers offered a slight resistance. I therefore ask: 1. Is this a sure sign of queenlessness, and if so when shall I requeen? 2. If the queen is still in the hive, will the bees raise a young queen for themselves? 3. In your opinion, have the bees done well, or is there anything wrong with my management? 4. I have now another empty hive, which I desire to fill with bees another season. What is the best way of doing this? 5. Is there any serious objection to the use of standard frames for super-box beyond the supposed difficulty of getting the bees to start in them? I may say I did not know of the existence of your valuable paper the B.B.J. until this year. Name, &c., sent for reference.—F. W. B., Birmingham, December 16.

Reply.—1. When drones are seen passing in and out of hives in December the inference is that the stock is either queenless or is headed by a young queen which has failed to mate, and is, in consequence, a drone-breeder. To account for this state of things, we may say it is possible that the old queen was crushed or injured when the frames were being manipulated during packing the hive for winter. As the season for re-queening has gone by, it will not be easy to get a fertile queen, and the risk of safe introduction by a novice is very great. The stock had better, therefore, remain as it is till the early spring, when a small lot of bees headed by a fertile queen may be obtainable for uniting to the others. 2. This is not likely. 3. The bees have done fairly well under the circumstances, though your "management" is not up-to-date on several points. We do not often hear of bees having 11 lb. of candy given at one time, or of a super holding eleven frames fitted with comb foundation being given to a stock located in the Midlands so early as end of April. 4. The "best" way of starting your new hive is to stock it with a strong natural swarm as early in May as you can obtain one. 5. There is no objection to your supering with standard frames for extracting beyond the weight you may choose to attach to the fact that the great majority of experienced bee-keepers seem to have found that the shallow-frame super is more satisfactory all round, and yields better results. In your case we should have expected a larger yield than 40 lb. of extracted honey from so strong a stock as the one mentioned. Finally, we are not a little surprised to hear of a reader who, having kept bees for any length of time, had not heard of the B.B.J. till this year; but better late than never, and "right there," as the Americans say, we would suggest our correspondent making the acquaintance of the "Guide Book," as in his present state of knowledge we are sure he would find it advantageous to him in his bee-work.

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

A. H. S. B. (London), Gryp (Sunderland), and others.—*Swarms in December.*—We have had several "Press cuttings" from various parts of the kingdom relating to the swarm captured at Gunrog Hall, Welshpool, this month. Bee-keepers of any experience, however, are well aware that December "swarms" are practically "hunger swarms"—*i.e.*, bees that desert their hives to avoid starvation owing to the carelessness of their owners.

A. F. Macduff (Tunbridge Wells).—*Good Localities for Bee-keeping.*—It is practically impossible for us to map out or classify the numerous localities more or less suitable for bee-keeping with anything like accuracy. The most that we can say is that Kent, where you now are, has many districts in which bees may be kept with profit. Most of the southern counties have districts where bee-forage is abundant, but in other parts it is scarce enough. If you could name a place where you desire to establish an apiary, we may be able to ascertain its suitability or otherwise.

J. Preston (Yorks).—*Humble-bees.*—There is no work we know of on the "Life of the Humble-bee," though several standard works treat of the *Bombus*. Among others, we may name Shuckard's "British Bees" (Lovel, Reeve, and Co., London). Should any reader know of a cheap work on "Our Wild Bees," we shall be glad if they will help our correspondent.

Honey Samples.

Salopian (Bridgnorth).—Except for lacking in consistency (or density), your sample (mainly from clover) would be quite suitable for the show-bench.

W. R. C. (Leeds).—Sample is from mixed sources (mainly clover), and is of very fair quality.

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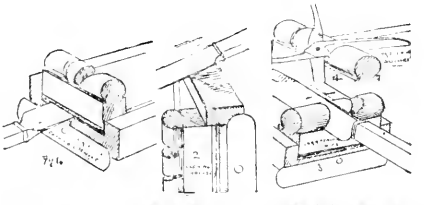

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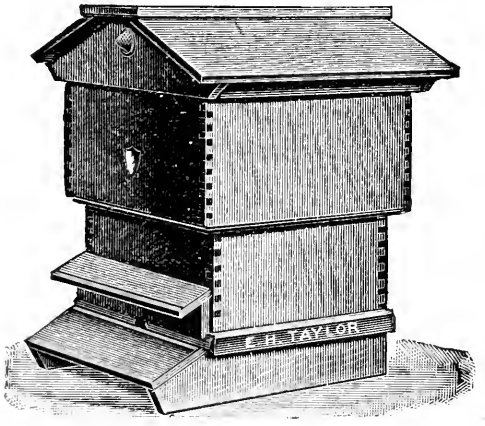

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Editorial, Notices, &c.

REVIEWS OF FOREIGN BEE-JOURNALS.

By "Nemo."

Best Aspect for Hives.—It has been generally thought preferable to have hives facing east or south, because bees could commence their work earlier in the morning when the sun shone upon them. M. A. Fouré has been experimenting with a view to deciding this question, and gives the result of his investigations in *Rucher Belge*. He has an apiary in which his hives are placed on the four sides of a rectangle. For the last five years he has every year weighed these hives and noted the amount of their produce. Here is the result: The annual average produced by hives facing south was 49 kilos of honey; north, 55.8; east, 50.2; and west, 54.8 kilos. From this it appears that a northern aspect is by far the best. It is stated that in this apiary the hives having a northern aspect are protected from the cold northerly winds by a hedge situated at some metres in front of them—a condition generally easy of attainment. Southern and eastern aspects appear to incite the bees to leave their hives when the sun shines in at the entrance and slightly warms the atmosphere, but when they get out into the open they become chilled and are lost. It must be borne in mind that a bee is of more value in spring than at any other time, because of its importance in the work of brood-rearing, and because the queen regulates her egg-laying in proportion to the number of bees available for feeding larvæ. Hives whose entrances do not face the sun are always more strongly populated, because the bees will only take flight when the exterior temperature reaches about 53 deg. Fahr., at which temperature they do not run the risk of being chilled. This explains why hives facing north and west have given the best returns. We can fully corroborate M. Fouré's statement, for our own bees are situated in a wood and are shaded from the sun, and do not leave their hives on cold days in the early spring, like those of our neighbours not so sheltered; but they are always strong and ready for the honey-flow when it comes.

Swarming Experiments.—It has often been stated that swarms have an instinctive desire to build combs when first hived, and that it is going contrary to Nature to furnish them with those already built or comb-foundation. M. Göldi, editor of the *Schweitzerische Bienenzeitung*, reports in that paper his observations on two hives on scales. The daily gross increase in weight of hives A and B during the first eight days of the honey-flow was in the proportion of 5 to 2. On the ninth and tenth days the proportion was equal. He asks why. Either B must have developed sufficiently to compete with A, or what M. Göldi thought more probable was that A was preparing to swarm. For some time he had remarked that strong colonies did not increase in weight as usual for a few (one to three) days before swarming. In this case he was right, as the hive threw off a swarm 3 kilos in weight on the eleventh day. And yet, notwithstanding the issue of the swarm, on the same day hive A showed an increase in weight of 1.8 kg. The swarm was introduced into a hive filled with built-out combs and placed on a weighing-machine, and the total increase in weight for the first three days was 8.1 kg., showing that the bees willingly took to the combs, and at once began rearing brood and storing honey in them. It also shows that bees have not the desire to build combs that is generally supposed, but that they are able to do so when the necessity arises was demonstrated by a similar swarm of 3 lb. filling during the same four days a super of twelve "Dadant" shallow-frames with honey. That the swarm does not desire, or is not obliged, to build combs was also shown by cases occurring to M. Göldi and others of swarms leaving hives furnished with comb-foundation to take up their residence in a hive having ready-built combs. The result of the harvest from these two swarms was as 7 to 3, or over 2 to 1, and this result will astonish no one, it being certain that a swarm compelled to build its combs first cannot collect and store anything like so much honey. During the three days that hive B on the scales showed an increase of 6.2 kg. the swarm from A showed 8.1 kg., or 2 kg. more than a normal colony not divided. On May 12, 13, and 14 colony A + swarm showed an increase of 11.7 kg. gross and 8.9 kg. net; colony B (not divided) an increase of 6.2 kg. gross and 4.5 kg. net. This shows that the produce of the swarm and parent hive A was double that of hive B. From further observations M. Göldi has arrived at the conclusion that we have no right to speak of an instinct in bees for building combs, and that they build rather in obedience to a need than to an instinct.

Fertilisation of Flowers.—It is stated in the Algerian bee-journal *Nahla* that on the island of Guadaloupe (Lesser Antilles) bees are held to be of the greatest importance for the purpose of transporting pollen for fertilising the blossoms of the cocoa and coffee trees. Before the introduction of bees, although the plants blossomed profusely, they yielded little or no fruit. Now the returns are not only regular, but have more than doubled.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[7332.] *Christmas Weather.* — The Hampshire hills in the distance, as viewed from my window, are of the old-fashioned Christmassy type. The green glades are encrusted with snow, and the thermometer outside my house registered 10 deg. of frost this morning, affording the boys a happy time sliding on a roadside pond, the ice of which is strong enough to bear them. The apiary bears the aspect of a great lone land, but as all stocks are packed snugly away for winter, one's mind is at rest so far as the bees' welfare is concerned.

Swarms and Driven Bees.—Mr. Sinfield, whose letter appears on page 506, asks: "What more is required than for driven bees to draw out their own combs and gather stores enough to winter on without any feeding required?" I may be allowed to say that not once in a long experience have I ever had a lot of driven bees that has reached this desirable result, not even in 1908, when our bees worked later in the season than they have done during the past twenty-five years.

The "Combination" Hive.—I only speak of this hive from practical experience. I have other hives in use besides the "Combination," but prefer the latter on all points, one of which is the easy manner in which a colony can be examined. I have no hinges to my hive-roofs, which can be lifted off if desired; but instead of hinges two large screws are fixed into the hive-front, and with a piece of strong string fastened inside by two picture-rings hinges are formed by which I can turn up the roof, and the string forms a stay holding the roof in position, and so a good shield is provided against the bees during manipulation. The length of the hive longitudinal space and the brood-nest can be overhauled in a short time. You can lift the brood-combs into view without a bee resenting the operation.

Wax-rendering.—Referring to the letter of Mr. King on page 516 last week, I have not been troubled with the bees wanting to get into the extractor—at least, not enough to cause any bother; if one or two bees have got in when I have been stirring up the contents they have cleared out as soon as one piece of glass was raised. I have used the old pot-boiling method of grandmothers, and tried in vain to get any profitable result from old black combs, but the wax which results from the thermo-solar extractor with the oldest combs is of fair quality wax.

In closing the year's bee-keeping, which started so badly in the cold spring and ended in a fair return owing to the continued summer weather in August, I would again wish our brethren in the craft a happy and prosperous New Year. —W. Woodley, Beedon, Newbury.

MANAGEMENT AT THE HEATHER.

[7333.] In reply to your correspondent "Medicus" (page 504), the shallow brood-chamber I referred to is fitted with close-ended frames, 14 in. by 6½ in., as used in the apiaries of Mr. Alex. Reid, whose improved hives have already been described in the B.B.J. Mr. Reid's constant success even in such bad seasons as 1902 and 1907 argues strongly in favour of horizontal contraction at the moors. The object of using a double-story brood-chamber during the clover-flow is, I presume, to prevent swarming, but, using single brood-chambers, I have not had a single swarm this season or last. One colony gave some trouble in 1906, but they were Carniolans.

While our strong colonies are building up in early summer there is no object in cramping, and unlimited room can be given to the queen. Once gathering has begun we want a brood-nest for brood alone, of a capacity that the queen can fully occupy, so the honey must go into the supers. Such different authorities as "D. M. M." and Mr. Simmins, along with Doolittle in America, are agreed that a brood-nest equal to nine standard frames will give the best results in comb-honey production.

My colonies are wintered over in double-story hives containing twenty-two frames, and usually no attention is required until the honey-flow begins. I then crowd all the bees into one story on selected solid frames of brood, and these eleven shallow-frames, being just equivalent to nine standard size, keep the queen fully occupied up to the end of July. While previously allowing a fairly large brood-nest with the double object of preventing swarming and producing a strong force of gatherers for the late crop just on the eve of the final ingathering, we contract to six frames of brood, with a solid comb of stores on each side. We have no use for a lot of brood under the supers at the heather. Immature bees do not take in honey, but their vacated cells do, as the moorman knows to his cost. To en-

sure success at the heather our colonies must by management be put in the condition that gives best results from the clover harvest, which means a constantly-increasing working force and a brood-nest within the queen's limits. The "Divisible" hive meets the latter requirement, and, when run with two queens, as already mentioned (page 475), provides a large gathering population for the late crop.

It should be distinctly understood that I do not advocate uniting in the brood form, but a constant accession of young bees to the working stock while honey is being gathered. Say the combined lots have sixteen frames of brood. As heather begins to yield, ten are given to the queen above and six to the one below the supers. The entire working force is thrown with the under colony, and as the combs of brood in the upper story dissolve into bees systematic uniting turns their energies in the direction most profitable to the bee-master.—J. M. Ellis, Ussie Valley, December 19.

TEMPORARY OUT-APIARIES.

[7334.] With reference to the question of temporary out-apiaries raised by "J. R." (7310, page 498), and in reply to the request of our Editors, I give my method of ventilating and packing the bees for transit. First let me say all bee-keepers know (or should do) that the month of June is rather a ticklish time in which to remove bees, and, bearing this in mind, I make my own hives fitted with standard frames hanging at right angles to entrance, which latter extends right across the body-box. The space between the outer-case and the body-box is fitted with a bridge made of perforated zinc, reaching right across the entrance. Just above the bridge two good-sized holes are bored through the outer-case to admit air. The entrance is fitted with a loose front, for fastening the bees up; it only needs turning over the perforated zinc reaching across entrance. The two holes mentioned above should be corked up when not in use. The floor-boards have a 4-in. square piece cut out of the centre and covered with perforated zinc, which can be covered by a slide in cold weather and opened to admit air in at bottom when going to the pasturage in summer. Supers are put on before starting, after removing all quilts and wrapping. The supers are covered with a thin wrap of very coarse canvas or scrim large enough to be packed down all round supers. After standing an hour to allow the bees to cool down, the hives are loaded up without roofs being put on. All necessary quilts and loose covers are put into a sack; the lorry has a good layer of straw spread over the bottom and a sheet laid over it. This makes a good mattress-like cushion for the hives to stand on. Finally, all is made secure with good ropes. We start off at midnight, when the motor "road-hogs" and other traffic have ceased, and thus have the road to ourselves. I need hardly say everything is done as gently and quietly as possible. This method is repeated when bringing the hives back home, and we rarely have any mishap. Wishing our Editors, contributors, and staff a happy New Year, and may it be a bumper one for bee-keepers.—J. R., Starbeck, Harrogate, December 21.

Queries and Replies.

[3857.] *Bees Carrying Pollen in December.*—I am in some trouble with one of my stocks of bees, bought through an advertisement in the B.B.J., the queen of which was stated to be a cross between a Sladen's "Hardy Prolific" queen and the advertiser's black drones. I may say the bees have been very busy carrying in pollen ever since they reached my place in October until December 13, which was a cold day; but what I could not quite understand was that while all my other stocks were perfectly quiet the bees in question were busy as could be carrying in big loads of pollen—from ivy and gorse, I think. I know nothing about these cross-bred bees from Sladen's strain, and therefore ask: Shall I expect to see any difference in colour from our native bees? I send name for reference, and sign—A Carnarvonshire Reader.

Reply.—It is not an uncommon experience to see stocks of bees brought from a distance to an entirely new location showing their appreciation of the new forage-ground by working with more energy than bees already on the spot. We quite expect you will see the newcomers out-distancing your home colonies next year, if the hybrids winter well. They will, no doubt, show yellow bands more or less distinct. Many thanks for good wishes and for the box of beautifully-berried holly, which is so scarce this year.

AMERICAN AND COLONIAL PAPERS.

EXTRACTS AND COMMENTS.

By D. M. Macdonald, Banff.

Red Clover.—Optimistic dreamers have now and again claimed that they had had bees with longer tongues able to reach the nectar in the red clover, but repeatedly the claim has been incontrovertibly proved to be a myth. Now some are attacking the other end of the problem and attempting to reduce the length of the petals by

selecting and rejecting, and growing seed only from heads with short tubes. Mr. Burbank, of America, a genius in the art of cultivating new and improved flowers, says the operation will take years of patient work with unending perseverance, but he and other enthusiasts are tackling the problem in the hope that "when they get bees harvesting nectar on the first bloom all that will then be necessary will be to continue the selection from year to year until a clover is produced that is readily visited by bees." Let us hope their efforts will be crowned with success.

Hot or Cold?—That is the "knife" question now exercising the minds of many bee-keepers who deal in extracted honey. Many believe entirely in a cold knife, but perhaps most prefer a heated one. The *Review* declares: "Everyone who has had experience in the matter knows that there is nothing like a hot knife for uncapping honey. A hot knife will pass through the comb with much less resistance, making the work much easier; besides, the cappings will slip off such a knife slicker than butter." This is apropos of a steam-heated knife. By the way, one was illustrated in our journal nearly a year ago. The cold-knife system, however, has its strenuous advocates both in America and Australia.

A Large or a Small Hive?—The question came up at the Detroit Convention, and the *Canadian Bee Journal* summarises the discussion as follows: "The contestants spoke fifteen minutes, each in praise of his own hive. When the judges gave their decision it caused quite a sensation, for it was something to this effect: A large hive is all right when managed right, and a small hive is the same, only a little more work, *and more honey*." That last clause speaks volumes. More honey; and in the right place for the bee-keeper's profits.

A Good Idea.—A contributor to *Am. B.J.*, writing on the subject of honey-selling, says: "My name is on every section. This I do by using a rubber stamp, and stamping or printing the label on every section before folding it. If more producers would put their names on their sections to show where they come from, I believe less off-grade honey would be put on the market." That is true. A man would be ashamed to put his name to an inferior article, and so he would keep it at home, or sell it as a second-class article at a smaller price. Too many bee-keepers never grade their comb-honey.

Dark Honey.—We have had differences of opinion in our own papers as to whether honey stored in combs which have been bred in can be as pure as that stored in virgin combs, several eminent bee-keepers stoutly upholding both sides of the question. Mr. Byer writes: "Prominent bee-keepers who exhibit at fairs without exception inform me that honey from brood-combs is darker, and that for exhibiting they are always careful to extract only from new white combs." If exhibiting, I would follow that policy in any case, giving the benefit to the doubt, if there is a doubt.

Standard Hives.—Mr. Townsend considers that "probably two-thirds of the colonies in his State are in eight-frame 'Langstroth' hives or in hives similar in size and shape." Another writer records that an "old soap-box hive" gave the best returns in his large apiary. Does this teach us that the man dominates the hive?

Notices to Correspondents.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

H. Butler (Kidderminster). — *Dr. Maassen's Work on Foul Brood.*—You can obtain the book in German by writing to the publisher, Herr Paul Paren, Berlin. It is not yet translated into English, or we should be very pleased to include it in our "book list."

A. J. Ruddin (Tatsfield).—*Australian Honey for the British Market.*—The laudatory circular issued by the Junior Army and Navy Stores is too lengthy for insertion in our columns, but from reports that have reached us we do not think the low price at which it is sold will affect the trade in good British produce, which latter should be able to rely on its superior quality for maintaining its prestige in public favour.

J. W. Moir (Edinburgh).—*Dr. Maassen's New Work on "Faul-brut" (Foul Brood).*—See reply to "H. Butler." With every wish to oblige correspondents, we cannot undertake the task of procuring the book from Germany, readers having probably much more time to spare than ourselves. The price is given both in German and English money on page 501 of B.B.J. for December 17, with name and address of publisher.

*** *In consequence of the Index occupying so much space this week, several important communications (already in type) are unavoidably held over till our next issue.*

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